

Personal Details

Born 1979, France
Nationality: French
Permanent Resident: Australia
Two children (2010 and 2016)

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Positions and Qualifications

Positions

- 2023 - present** : R&D Director, Naval Group Pacific¹ (Australia).
- 2018 - present** : Professor, ENIB² (France).
 - 2021 - 2023** : CNRS delegation, IRL CROSSING (Australia).
 - 2007 - 2018** : Associate professor, ENIB.
 - 2006 - 2007** : Assistant associate professor, UBO³.
 - 2005 - 2006** : Assistant associate professor, ENIB.
 - 2002 - 2005** : PhD student, ENIB.

Honorary Positions

- 2021 - present** : Adjunct Professor, University of Adelaide (Australia).
Visiting Professor, Flinders University (Australia).
- 2018 - 2020** : Visiting Professor, University of Miami (USA).
- 2016 - 2017** : Visiting Professor, Florida International University (USA).

Honors

- 2021 - 2025** : National scientific excellence award - PEDR, rank A.
- 2015 - 2019** : National scientific excellence award - PEDR, rank A.
- 2011 - 2015** : National scientific excellence award - PES, rank A.

Education

- 2012** : Habilitation to supervise research (HDR), computer science⁴.
- 2005** : PhD Thesis, UBO, Computer science.
- 2002** : MSc, Computer science, Rennes I University.
ENIB Engineer.

¹ Naval Group Pacific (NGP) is a subsidiary represents Naval Group in Australia.
NGP is a R&D Centre of Excellence for Naval Group.

² ENIB : École Nationale d'Ingénieurs de Brest (Brest National Engineering School, France)

³ UBO : Université de Bretagne Occidentale (University of Western Brittany, France)

⁴ Highest degree in French academic education, awarded after passing the tenure process, qualifies for full professorship

Career overview

I was awarded a PhD in **Artificial Intelligence (AI) and Virtual Reality (VR)** in 2005. I started a position as a lecturer at French National Engineering School (ENIB) in 2006 and became a member of the Lab-STICC (UMR CNRS). I defended my *Habilitation à Diriger des Recherches* (HDR) in 2012 and received qualification for a professorship (Informatic section) in 2013. I have been appointed a position as a Professor at ENIB in 2018.

Throughout my career, I have been honored with national award bonuses (PEDR 2011-2015, PES 2015-2019, and 2021-2025). Currently, I am supervising 4 PhD students (in progress) and have supervised the completion of 14 PhDs and 30 research master's degrees.

Between 2017 and 2021, I led the "artificial intelligence" program at Lab-STICC, which counted 50 permanent researchers. From 2020 to 2021, I led the RAMBO team at Lab-STICC (10 permanent researchers) focusing my research on **interactive robotics**.

In terms of international recognition, I served as a Professor (by courtesy) at the University of Miami from 2018 to 2020, and as a visiting Professor at Florida International University from 2016 to 2017. Currently, I hold positions as an adjunct Professor at the University of Adelaide and as a visiting Professor at Flinders University.

In France, I have been involved in several academic projects (ANR, FIU, EU) and have led numerous industrial projects, including 7 CIFRE and CIFRE-Defense. In terms of influence, I served as the **chief editor of the journal IJVR** (International Journal of Virtual Reality) for 5 years (2013-2018). This journal has been ranked "C" by ERA CORE.

Regarding teaching, I have an average annual workload of 250 hours, focused on computer science education at ENIB and research programs (i.e. master2). I had the privilege of **leading the master's program in computer science for 10 years** at ENIB.

In addition, I have been involved in the management of my institution by being elected to the board of directors and the pedagogical council. I have served as a reviewer for 7 PhD dissertations and 1 HDR, and 18 as examiner or president. In 2019, I had the opportunity to be nominated as a French expert to produce a **report on the progress of AI in Russia**, commissioned by the French Government.

Between 2021 and 2023, I was on **delegation at the Australian IRL "CROSSING"**, the international CNRS laboratory bringing together the three universities of Adelaide, Naval Group, IMT and CNRS. In 2022, I received the **"French of the Year in Australia" award**, a significant achievement in my career. As a researcher, my priority has been to transfer the algorithms I have developed into practical applications. As a result, I have participated in competitions with positive outcomes, mainly in IJCAI and RoboCup, winning the RoboCupHome contests in 2022 and 2023 (i.e., becoming **world champions in social robotics**).

Since september 2023, I started a position as CTO at Naval Group Pacific (NGP) to **lead Naval Group's R&D activities in Australia**. This involves overseeing a research program in collaboration with local industrial and academic partners. In 2023, NGP initiated PhD programs in collaboration with 3 universities (Flinders, Univ. of Adelaide, UniSA) and Naval Group Singapore. My role is to coordinate local activities while liaising with Naval Group in France. NGP have 9 employees, including administrative staff, VIE, researchers, engineers, and PhD candidates. This position is a secondment for 2 years (2023-2025) from ENIB.

Administrative Activities

Administrative Responsibilities

Committees

- 2023 - present** : Management committee (IRL CROSSING), Naval Group representative
- 2021 - 2023** : Management committee (IRL CROSSING), CNRS representative
- 2017 - 2020** : Laboratory committee (Lab-STICC).
- 2016 - 2020** : MSc committee member at Brest
(4 institutions : UBO/ENIB/IMT Atlantique/ENSTA).
- 2012 - 2018** : Board of directors ENIB.
- 2014 - 2016** : Board of directors AFIA ⁵.
- 2013 - 2014** : Board of directors CERV.
 - 2013** : Disciplinary committee ENIB.
- 2010 - 2013** : Educational board ENIB.

Jury

- 2017 - 2020** : MSc's jury, Brest.
- 2011 - 2017** : Student admission ENIB.
- 2012 - 2017** : MSc's jury, Brittany.

Others

- 2013** : Reviewer in charge of the disciplinary committee ENIB.
- 2008 - 2011** : In charge of relations between high-schools, universities and ENIB.

⁵ AFIA : French Association of Artificial Intelligence (<http://www.afia.asso.fr>)

Teaching and Supervision

Since my recruitment at the ENIB, I have been in charge of 250 teaching hours per year.

Teaching

ENIB

Year	Theme	Vol .	Number	Kind
2019 - 2021	Javascript	6h/semester	24 (4 th year ENIB)	lecture/lab
2019 - 2021	C#	6h/semester	24 (4 th year ENIB)	lecture/lab
2018 - 2021	Android	18h/semester	24 (4 th year ENIB)	lecture/lab
2015 - 2016	Android	4.5h/semester	24 (4 th year ENIB)	lab
2013 - 2021	SCRUM Project	15h/semester	4 students	lab
2008 - 2013	Network	12h/semester	24 (4 th year ENIB)	lab
2008 - 2021	UML *	42h/semester	80 (3 th year ENIB)	lecture/lab
2008 - 2021	C++	42h/semester	24 (3 th year ENIB)	lab
2007 - 2021	Object programming *	42h/semester	90 (2 th year ENIB)	lecture/lab
2007 - 2021	Artificial intelligence	12h/semester	24 (5 th year ENIB)	lecture/lab
2006 - 2008	Virtual reality	4h	24 (5 th year ENIB)	lecture
2003 - 2006	Soft Computing	30h	24 (5 th year ENIB)	lecture/lab
2003 - 2006	Logic Programming	36h	24 (5 th year ENIB)	lab
2003 - 2006	Algorithm	260h	24 (1 year ENIB)	lab
2003 - 2006	Compilation	48h	24 (5 th year ENIB)	lab

In others institutions

Year	Theme	Vol .	Number	Kind
2018 - 2021	Introduction to Robotics	6h	12 (Australian students)	lecture/lab
2017 - 2021	Introduction to Robotics	6h	12 (MSc UBO)	lecture/lab
2017 - 2021	Interactive Machine Learning *	20h	24 (MSc UBO)	lecture/lab
2015	Virtual reality	1h	21 (lifelong learning)	lecture
2011 - 2021	Artificial intelligence	6h	10 (MSc Britany)	lecture
2008 - 2021	Neurals Networks	6h	20 (MSc UBO)	lecture/lab
2005 - 2006	Knowledge Engineering	26h	20 (MSc UBO)	lecture/lab
2005 - 2006	Software Engineering*	130h	20 (MSc UBO)	lecture/lab
2005 - 2006	Formal Methods	30h	20 (MSc UBO)	lecture/lab
2005 - 2006	Virtual Reality	6h	20 (MSc UBO)	lecture
2003 - 2004	Multi-Agents system	32h	20 (MSc Ecole Navale)	lecture/lab

In others countries

Year	Theme	Vol .	Number	Kind
2021 - 2022	Immersion in virtual reality	2h	6 (M2 of Psycho at Adelaide)	lecture
2014	Virtual reality	20h	21 (M2 AUL-Beyrouth)	lecture/lab

* : Teaching Unit (TU) coordinator

Responsibilities

2011 - 2021 : In charge of MSc (M2) in computer science for ENIB (double degree).

- coordination with others institutions (common M2)
- accreditation application (every 4 years)
- definition of programs
- students selection
- jury
- internships management
- promotion of the double degree

2014 - 2021 : In charge of the classroom " NAO Robots " (15 robots) at the ENIB school

Supervision

2007 - 2021 : Supervision of around 300 interns working in companies.

International Mobility

2014 : Invited teacher at "Arts, Sciences and Technology University" (AUL) ⁶, Beirut, Lebanon. Course in Artificial Intelligence and Virtual Reality (1 week / 20h).

⁶ <http://www.aul.edu.lb/>

Research Activities

Key-words: Artificial Intelligence, Interactive Simulation (Human-System), Machine Learning, Robotic, Cognitive Sciences, Human Factors.

Scientific Positioning

How can entities/robots be equipped with autonomous behavior in complex environments in which humans participate?

Symbolic artificial intelligence techniques have been applied to define these behaviors. However, these techniques have limitations as they are mainly based on predetermined rules of behavior chosen by the designer. Despite this fact, in complex (open simulation, heterogeneous and participatory) worlds, entities may behave unpredictably (behavioral variability of autonomous entities, free will of human users), thus creating new situations. When faced with situations unforeseen by the programmer, entities may display unsuitable behaviors. Therefore, the methodologies derived from adaptive artificial systems may contribute to overcoming these limitations. My study focuses on the theme of adapting the behavior of autonomous entities in participatory environments. The aim of such adaptation is to make the behavior of entities as believable as possible (*i.e.* similar to human behavior). For this reason, we consider that entities should *learn* through experience; they must *anticipate* the behavior of others and the potential impact on the environment, and they must also use the *presence of the human user* in the world to their advantage to adapt their behavior. Imagine a world where, like humans, each entity would have its own behavior which would evolve automatically throughout the simulation. This is the aim of my research.

Softwares

<https://github.com/RoboBreizh-RoboCup-Home/>

Software patent

2021 : "Infobuna" : software for disease detection and grading of coffee using photos
(num IDDN.FR.001.170002.000.S.P.2021.000.2100)

Publications synthesis

<i>Inter. Journals</i>	<i>National Journals</i>	<i>Inter. Conf.</i>	<i>Preprints</i>	<i>National Conf.</i>	Total
26	4	70	4	5	109

h-index : 19 (google scholar⁷)

citations: 1495 (google scholar)

⁷ <https://scholar.google.com/citations?user=yNTv2kwAAAAJ>

Main publications

Delamarre A., Shernoff E., **Buche C.**, Frazier S., Gabbard J. and Lisetti C. (2021). The Interactive Virtual Training for Teachers (IVT-T) to Practice Classroom Behavior Management. *International Journal of Human - Computer Studies*. 152. [Q1, Rank :A]

Cazorla R., Pionel L., Papadakis P. and **Buche C.** (2021). Bottleneck Identification to Semantic Segmentation of Industrial 3D Point Cloud Scene via Deep Learning. *International Joint Conference on Artificial Intelligence (IJCAI)*. pages 4877-4878 [Rank :A]

Delamarre, A., **Buche C.** and Lisetti C. (2021). Modeling Emotions for Training in Immersive Simulations (METIS): a Cross-Platform Virtual Classroom Study. *IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*. pages 78-83 [Rank :A]

Cazorla R., Pionel L., Papadakis P. and **Buche C.** (2022). Reducing domain shift in synthetic data augmentation for semantic segmentation of 3D point clouds. *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*. pages 1198-1205 [Rank :B]

Walleign S., Polceanu M., Jemal T. and **Buche C.** (2019). Coffee Grading with Convolutional Neural Networks using Small Datasets with High Variance. *International Conference on Computer Graphics, Visualization and Computer Vision (WSCG)*. pages 113-120. [Rank :B]

Supervision

PhD (in progress)	PhD (alumni)	Total PhD	Postdoc	Engineer	MSc
4	14	18	2	5	30

Responsibilities

Scientific and Management Responsibilities

2023 - present : R&D Director (CTO) at Naval Group Pacific.

Naval Group Pacific is a subsidiary that represents Naval Group in Australia.

Leading Naval Group's R&D activities in Australia.

9 FTE : Admin, VIE, engineers, scientists, PhDs

Budget : \$1,100.000 per year

2019 - 2023 : Leader - Team "Robobreizh"⁸ (~ 10 researchers), Lab-STICC/CROSSING/LITIS

2019 - 2021 : Leader - Team "RAMBO" (~ 15 researchers), Lab-STICC.

2017 - 2021 : Leader - Program "Artificial Intelligence" (~ 50 researchers), Lab-STICC.

2017 - 2019 : Leader - Group "Interactive Machine Learning" (~ 15 researchers), Lab-STICC.

2016 - 2017 : Leader - Group "Cognition and Simulation" (~ 10 researchers), Lab-STICC.

Editorial Responsibilities

2023 : Co-Editor of IEEE Springer LNCS 14140 "RoboCup 2023: Robot World Cup XXVI"⁹ - ERA CORE indexed B

2016 - 2017 : Co-Editor of a special issue "Computer Games" for "Revue d'Intelligence Artificielle"

2013 - 2018 : Editor-in-Chief of the journal "International Journal of Virtual Reality" (IJVR)¹⁰ - ERA CORE indexed C

⁸ <https://www.enib.fr/~robobreizh/>

⁹ <https://link.springer.com/book/10.1007/978-3-031-55015-7>

¹⁰ <https://ijvr.eu/>

Internationals Scientific Collaborations

Ethiopia

- French Embassy in Ethiopia, doctoral program CAMPUS FRANCE / ENIB + UBS
 - ◊ 3 PhD candidates at ENIB via this program
 - ◊ 1 PhD candidate at UBS via this program

Spain

- GENEURA: credibility of the characters in video games by observation of human behavior.
 - ◊ Joint publications (see appendix)
 - ◊ A. Mora was a PhD jury member at ENIB (J. Soler)

USA

- COLORADO STATE UNIVERSITY : interactive machine learning
 - ◊ 4 M1 students from ENIB were interns at Colorado State
- AFFECTIVE SOCIAL COMPUTING LABORATORY (FIU) : virtual classroom to train teachers
 - ◊ Joint publications (see appendix)
 - ◊ Common research project ("Interactive Virtual Training" project ¹¹) funded by the U.S. Department of Education.
Parteners : Florida International University / Rutgers University / Virginia Tech / ENIB
 - ◊ MoU has been signed ENIB / FIU
 - ◊ One post-doc, one PhD candidat and two M1 students from ENIB moved to FIU
- UNIVERSITY OF MIAMI (UM) : robocup soccer using robots NAO.
 - ◊ Joint publications (see appendix).
 - ◊ U. Visser was a PhD jury member at ENIB (M. Polceanu)
 - ◊ U. Visser is co-supervisor of A. Dizet (PhD) and N. Argaw (PhD)

International Mobility

Secondment at :

Company: Naval Group Pacific, Adelaide, Australia.
Topic: Human-AI interactions
Period: 2023-2025 (2 years)

Delegation at :

Lab: CNRS IRL CROSSING ¹², Adelaide, Australia.
Topic: Human-AI interactions
Period: 2021-2023 (3 years)

¹¹ <http://ies.ed.gov/ncer/projects/grant.asp?ProgID=21&grantid=1725&NameID=258>

¹² <http://crossing.cnrs.fr>

Visiting scholar at :

- Lab:** Florida International University ¹³
in the School of Computing and Information Sciences, Miami, USA.
- Topic:** Affective virtual character / Virtual classroom.
- Host:** Christine Lisetti, director of Affective Social Computing Laboratory
- Period:** 2018 (2 months) / 2017 (3 months) / 2016 (2 weeks)
2015 (1 month) / 2014 (3 weeks)
- Lab:** University of Miami ¹⁴, USA.
- Topic:** Robocup Soccer robot NAO.
- Host:** Ubbo Visser, director of AI & Games Group in the Department of Computer Science.
- Period:** 2018 (2 months) / 2017 (3 months) / 2016 (2 weeks)
2015 (1 month)
- Lab:** University of Granada, the GENEURA GROUP ¹⁵, Spain.
- Topic:** Evolving Behaviour modeling for video games.
- Host:** Antonio M. Mora García, researcher
- Period:** 2013 (3 weeks)

Grants

Institutional Grants

- 2023 - 2026 :** [Member] EU project COFUND - AUFRANDE
Topic: Interactive robotic and Virtual reality
Collaboration with UNIVERSITY OF SOUTH AUSTRALIA, RMIT.
This project supports a PhD thesis.
- 2019 - 2023 :** [Co-PI] PROG4YU ANR project hosted by the LIG ¹⁶.
Topic: Interaction between human and robot.
Collaboration with LIG, LIP, PROTOTIG.
≈ 160 K €
- 2021 - 2022:** [Co-PI] Defense (AID) project
Topic: Meteo Forecast
Collaboration with EXWEX.
≈ 18 K €
- 2021 - 2023:** [PI] Britany Region
Topic: Interaction between human and robot.
Collaboration with FLINDERS UNIVERSITY.
≈ 8 K €
- 2020 - 2022:** [PI] Britany Region
Topic: RoboCup.
Collaboration with FLINDERS UNIVERSITY + THE UNIVERSITY OF ADELAIDE.
≈ 17 K €

¹³ <http://www.miami.edu/>

¹⁴ <http://www.fiu.edu/>

¹⁵ <http://geneura.wordpress.com>

¹⁶ <http://prog4yu.imag.fr/>

- 2021:** [PI] ENIB2020 project
 Topic: Interaction between human and robot.
 Collaboration with NAVAL GROUP.
 ≈ 11 K €
- 2021:** [PI] AFRAN project
 Topic: Interaction between human and robot.
 Collaboration with FLINDERS UNIVERSITY (AUSTRALIA).
 ≈ 2 K €
- 2017 - 2019 :** [Co-PI] REVAM project.
 Topic: Out of body experience to help patient suffering from anorexia
 Funding : "Fondation de l'Avenir".
 ≈ 17 K €
- 2017 - 2021 :** [Member] of the STRATEGIC ANR project hosted by MASA.
 Topic: Interactive strategical situation.
 ≈ 130 K €
- 2016 - 2020 :** [Member] of INTERACTIVE VIRTUAL TRAINING (IVT)
 US project hosted by the Rutgers University.
 Topic: Serious game for Early Career Teachers in High Poverty Schools.
 Collaboration with RUTGERS UNIVERSITY, FIU, VIRGINIA TECH.
- 2014 - 2019 :** [Co-PI] SOMBRERO ANR project hosted by the LIG.
 Topic: Interaction between human and robot.
 Collaboration with LIG, GIPSA-LAB, ALDEBARAN, LIP.
 ≈ 118 K €
- 2011 - 2014 :** [Member] FUI project SIFORAS (accredited by the "competitive clusters" Images&Réseaux, I-Trans and Systematic).
 Topic: a training environment for industrial processes.
 Collaboration with ALSTHOM, DCNS, NEXTER, RENAULT, SNCF, DAF CONSEIL, DELTACAD, CEA LIST, INSA, ENISE.
- 2004 - 2008 :** [Member] EU project Network of Excellence -INTUITION
 Topic: virtual training environment.
 Collaboration with 66 partners ¹⁷.

Industrial Grants

- 2022 - 2025 :** [PI] ARIANEGROUP
 Topic: predictive maintenance.
 This project supports a PhD thesis (CIFRE Defense AID).
 ≈ 75 K €+ PhD salary
- 2020 - 2023 :** [PI] SEGULA
 Topic: Semantic Segmentation
 This project supports a PhD thesis.
 ≈ 48 K €+ PhD salary
- 2020 - 2023 :** [Co-PI] THALES
 Topic: 3D Mapping
 This project supports a PhD thesis (CIFRE).
 ≈ 10 K €+ PhD salary
- 2019 - 2020 :** [PI] ERICSSON
 Topic: object detection in industrial context.
 This project supported master thesis.
 ≈ 14 K €

¹⁷ <http://intuition.zcu.cz/>

- 2020 - 2024** : [PI] CERVVAL
 Topic: Machine Learning in robotic, application to the robocup soccer.
 This project supported PhD thesis.
 ≈ 60 K €+ PhD salary
- 2016 - 2018** : [PI] ERICSSON
 Topic: object detection by vision for connected tennis.
 This project supported master thesis.
 ≈ 14 K €
- 2015 - 2020** : [PI] DIAGNOSTICA-STAGO
 Topic: medical decision.
 This project supported a PhD thesis (CIFRE) and a master thesis.
 ≈ 130 K €
- 2012 - 2016** : [PI] STDI-EMD
 Topic: the exploitation of educational content.
 This project funds a PhD thesis in human science (CIFRE).
 ≈ 110 K €+ PhD salary
- 2012** : [Co-PI] DCNS
 Topic: Managing human teams; training with virtual reality.
 Collaboration with UTC/HEUDIASYC, ECAM, ENSTA, DCNS, I-MAGINER, DAESIGN, STUDEC. This project supported a PhD thesis.
 ≈ 80 K €+ PhD salary
- 2010 - 2015** : [PI] DIAGNOSTICA-STAGO
 Topic: medical training.
 This project supported a PhD thesis and two experiments driven by psychologists (test the device on 60 users for 3 weeks).
 ≈ 150 K €+ PhD salary
- 2009 - 2018** : [PI] VIRTUALYS
 Topic: adaptive believable behaviors.
 This project supported three PhD thesis (CIFRE).
 ≈ 100 K €+ PhD salary

Invited Speaker

- 2024** : IROS conference (rank: A), Abu Dhabi, United Arab Emirates
2024 : ICRA conference (rank: A*), Yokohama, Japan
2023 : CSIRO, Adelaide, Australia
2023 : Museum of Contemporary Art, Sydney, Australia
2022 : University of Swinburne, Melbourne, Australia
2022 : Defence Science and Technology Group (DSTG), Adelaide, Australia
2022 : University of South Australia (UniSA), Adelaide, Australia
2022 : Australian National University (ANU), Canberra, Australia
2022 : Embassy of France, Canberra, Australia
2021 : The University of Adelaide, Psychology School, Australia
2021 : Flinders University, Australia
2021 : The University of Adelaide, Robotic Group, Australia
2020 : RoboCup@Home Education Online classroom (Invited Lecture Series)
2019 : Moscow State University (MSU), Russia
2019 : Skoltech, Russia
2019 : Moscow Institute of Physics and Technology, Russia
2019 : Higher School of Economics (HSE), Moscow, Russia

2019 : National University of Science and Technology (MISiS), Moscow, Russia
2019 : ITMO (Russia's National Research Universities), St Petersburg, Russia
2019 : Saint Petersburg State University (SPbGU), Russia
2019 : Russian Academy Of Science, Siberian Branch, Russia
2019 : GDR IA, Paris
2019 : Table ronde sur l'Intelligence Artificielle, Mairie de Vannes.
2019 : Technopole Quimper.
2017 : IUT Vannes.
2014 : University of Miami, FL, USA
2014 : Florida International University, FL, USA
2014 : Arts, Sciences and Technology University, Beirut, Lebanon.
2006 : LIUM Laval
2006 : LIMSI Paris
2006 : IRIT / UT1 Toulouse
2006 : IRISA Rennes

Dissemination

Full Press: https://www.enib.fr/~robobreizh/src/en/links_en.html

Selected press :

2023 : Magazine "Science & Vie" published an interview on my research activities
2022 : France Inter interview "la matinale" on interactive robotic
2021 : Magazine "l'Usine Nouvelle" published an interview on my research activities
2018 : Magazine "Planet Robots" published an article on my research activities (2 pages)

Honors and Awards

Nomination

2022 : Elected "French of the Year in Australia" ¹⁸
2021 - 2023 : Professor (Adjunct), University of Adelaide.
Visiting Professor, Flinders University.
2018 - 2020 : Professor (by courtesy), University of Miami.
2017 : Visiting Professor, University of Miami
2016 - 2017 : Visiting Professor, Florida International University

Contests

2023 : 1st RoboCup@Home - world champion in social robotic
2022 : 1st RoboCup@Home - world champion in social robotic
2nd Laval Virtual Contest
2021 : 3rd RoboCup@Home
2020 : 1st RoboCup@Home Education
2017 : Finalist "Angry Birds AI Competition" - IJCAI 2017.
2016 : Finalist "Angry Birds AI Competition" - IJCAI 2016.
2015 : 1st "Angry Birds AI Competition - Competitive Track" - IJCAI 2015.
2015 : Semi-Finalist "Angry Birds AI Competition" - IJCAI 2015.

¹⁸ About 75 000 French people live in Australia, elected in the category Innovation and Research.

- 2015 : 7th RoboCup@Simulation
- 2014 : Semi-Finalist "Angry Birds AI Competition" - ECAI 2014.
- 2013 : Finalist "Angry Birds AI Competition" - IJCAI 2013.
- 2013 : 1st "Man vs Machine Challenge at ANU Open Day" - IJCAI 2013.

Articles Prizes

- 2012 : Best Paper Award, international conference GAMEON 2012 in Malaga (Spain).
- 2012 : Excellence Award, international conference ICVL 2012 in Braşov (Romania).

Participation in Working Groups

- 2010 - present : French Artificial Intelligence Association (AFIA)
- 2010 - 2018 : French Virtual Reality Association (AFRV)
- 2011 - 2015 : European Association for Virtual Reality and Augmented Reality (EuroVR)

Expert

Panels

Habilitation (HDR)			PhD			Total
reviewer	president	member	reviewer	president	member	
1	0	1	7	4	14	27

Detail in appendix.

Mission for French Embassies

- 2019 (1 week) : Expert for the French Embassy in Russia.
The objective of this mission was to assess AI advances in Russia, visiting the main actors (Ministries, Universities, Research Institutes, Companies). A confidential report has been written for the French government.
- 2019 (1 week) : Expert for the French Embassy in India.
The objective of this mission was to make connections with the research institutes.

Expert

- 2023 - 2024 : CTI (Commission of the Engineer Degree).
- 2022 : Academic referee for University of Melbourne.
- 2021 : LIG funding program.
- 2020 : Fench Army PhD funding program (DGA/AID).
- 2019 - 2021 : Competition of the best programmer challenge AXA in France.
- 2019 : Chilean National Fund for Science and Technology.
- 2019 : Fonds de recherche du Québec Nature et technologies (FRQNT).
- 2016 : Programs of the Excellence Initiative (IdEx).
- 2016 : Natural Sciences and Engineering Research Council of Canada (NSERC)
- 2014 - 2020 : Competition Laval Virtual Awards.
- 2014 : Programs of the Excellence Initiative (IdEx).
- 2014 : "Programme de Recherche Futur & Ruptures" (Mine-Telecom)
- 2012 - present : ANR (French National Research Agency). One expertise a year.
- 2011 - present : ANRT (French National Research and Technology Agency). One expertise a year.

PhD Committee (CSI)

- 2020 - 2023 : R. Ly, LIG.
2019 - 2021 : T. Cataluppi, LIG.
2017 - 2020 : N. Foulquier, LATIM.
2015 : N. Thanh Khoa, UBO.

Hiring Committees

- 2024 : External member, position of a/professor, Mines-Télécom.
2022 : Internal member, position of professor, ENIB.
2020 : External member, position of a/professor, Mines-Télécom.
2018 : External member, position of a/professor, Toulouse University.
2017 : External member, researchers' evaluation, University College Dublin (UCD).
2011 : External member, position of a/professor, UBO.

Organization of Scientific Events

- 2023 : General chair of the RoboCup symposium (rank: B).
Around 200 participants, 30 nationalities.
Invited keynote talks:
- Ben Moran and Guy Lever, DeepMind (Google)
 - Cynthia Breazeal, MIT
 - Laurence Devillers, Sorbonne University
- 2022-2023 : RoboCup@Home - Organizing Committee
2021-2023 : RoboCup Soccer SPL - Organizing Committee
2018 : Co-organizer of the contest Humanoid Open at Brest
2016 - 2020 : Co-organizer of the conference AAAI (FLAIRS), USA ¹⁹ (rank: C)
2016 + 2017 : Co-organizer of the AI contest in the conf. "Plate-Forme d'Intelligence Artificielle"
2016 : Co-organizer of the research day "AI&VR" (common AFIA/AFRV), Paris
2015 : Co-organizer of the conference day Video Games & AI
2007 - 2008 : Co-organizer of the IEEE conference "Virtual Reality Internat. Conference" ²⁰
2006 : Coordinator of CNRS summer school EIAH ²¹ (Virtual Learning Environments)

Reviewing

Journals : Nature, Neural Networks, International Journal of Human-Computer Interaction, Journal of Multimodal User Interfaces, Computers & Graphics, Frontiers in VR, Frontiers in Psychology, Frontiers in Robotics and AI, Artificial Intelligence in Medicine, Fuzzy Sets And Systems, Computer in Industry, Computer Animation and Virtual Worlds, Applied Soft Computing, Simulation Modelling Practice and Theory, Journal of Virtual Reality and Broadcasting ...

Conferences : ICRA, ICCV, CVPR, ECIS, IEEE VR, ISMAR, ACE, CGI, IEEE SMC, GRAPP, ICIDS, PAAMS, EvoGames, IRC, ARTECH, ICVRV, BESC, GAMEON, WACAI, RaPC, PFIA, CNIA, APIA

More information in appendix

¹⁹ <http://www.flairs-29.info> + <http://www.flairs-30.info> + <http://www.flairs-31.info>

²⁰ <http://www.laval-virtual.org>

²¹ EIAH : Environnement Informatique d'Apprentissage Humain <http://www.lirmm.fr/eiah2006>

Appendix : Review

Journals:

Name	Impact Fact.	Publisher	Rank
Nature	69.5	Springer	A
Neural Networks	2.516	Elsevier	A
Artificial Intelligence in Medicine	2.019	Elsevier	A
Fuzzy Sets And Systems	1.875	Elsevier	A
International Journal of Human-Computer Interaction	3.3	Wiley	A
Journal of Multimodal User Interfaces	2.2	Springer	B
Computers & Graphics	1.8	Elsevier	B
Computer Animation and Virtual Worlds	0.424	Wiley	B
Computer in Industry	4.76	Elsevier	B
Applied Soft Computing	2.084	Elsevier	C
Simulation Modelling Practice and Theory	0.728	Elsevier	C
Journal of Virtual Reality and Broadcasting		Online	C
Journal of Medical Internet Research	5.175	Online	C
Frontiers in VR	5.1	Springer	
Frontiers in Psychology	4.2	Springer	
Frontiers in Robotics and AI	3.3	Springer	
Nurse Education Today	3.42	Elsevier	
Teaching and Teacher Education	3.591	Elsevier	
Transact. on Computational Intelligence and AI in Games	1.63	IEEE	
Entertainment Computing	1.615	Elsevier	
Inter. Journal of Electrical and Computer Engineering			
Advanced Technology for Learning		ACTA Press	
Chinese Journal of Aeronautics			
Recent Patents on Computer Science		Benthamsience	
Revue Africaine de la Recherche en Informatique et Mathématiques Appliquées			

Conferences:

Name	Rank
IEEE International Conference on Robotics and Automation (ICRA)	A
International Conference on Computer Vision (ICCV)	A
IEEE Computer Vision and Pattern Recognition Conference (CVPR)	A
European Conference on Information Systems (ECIS)	A
IEEE Virtual Reality international conference (IEEE VR)	A
IEEE/ACM International Symposium on Mixed and Augmented Reality (ISMAR)	A
Advances in Computer Entertainment technology (ACE)	B
Computer Graphics International (CGI)	B
IEEE International Conference on Systems, Man, and Cybernetics (SMC)	B
International Conference on Computer Graphics Theory and Applications (GRAPP)	B
International Conference on Interactive Digital Storytelling (ICIDS)	C
Inter. Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS)	C
EvoGAMES	
IEEE International Conference on Robot Computing (IRC)	
Conference on Digital Arts (ARTECH)	
International Conference on Virtual Reality and Visualization (ICVRV)	
Behavioral, Economic and Socio-Cultural Computing (BESC)	
Eurosis GAMEON	
Workshop Affect, Compagnon Artificiel, Interaction (WACAI)	
RàPC - Raisonnement à partir de cas	
Plate-Forme Intelligence Artificielle (PFIA)	
Conférence Nationale en Intelligence Artificielle (CNIA)	
Applications Pratiques de l'Intelligence Artificielle (APIA)	

Books:

Title	Publisher
<i>Intelligent and Adaptive Educational-Learning Systems: Achievements and Trends</i>	Springer (serie "Smart Innovation, Systems and Technologies" ²²)
<i>La modélisation des activités managériales au défi de la formation. Analyse d'un serious game</i>	L'Harmattan

²² <http://www.springer.com/series/8767>

Appendix : Supervision

Engineer (5)

- 2023 - 2024** : H. Lechene
Topic: Underwater drones simulation
- 2023 - 2024** : Q. Arzel
Topic: Underwater drones and energy
- 2022 - 2023** : L. Li
Topic: Digital Twin in robotic
- 2018** : A. Legeleux
Topic: Machine Learning in robotic

Postdoct (2)

- 2021 - 2022** : N. Beu
Topic: Human activities monitoring
- 2016 - 2018** : M. Polceanu
Topic: Machine Learning in robotic

PhD Supervisor (18 + 4 abort)

- 2023 - present** : H. Beshada Balcha - Supervision (50 %) shared with P. Rauffet
Topic: Interaction Human / Robot
- 2022 - present** : JV Autran - Supervision (50 %) shared with JP. Diguët
Topic: Predictive Maintenance
- 2021 - present** : M. Neau - Supervision (25 %) shared with P. Santos / K. Sammut / AG. Bosser
Topic: Machine Learning for robot
- 2020 - present** : A. Dizet - Supervision (50 %) shared with U. Visser
Topic: Machine Learning for robot
- 2023** : J. Alkenani - Supervision (50 %) shared with R. Querrec
(abort) Topic: Interaction Human / Robot
- 2020 - 2024** : Y. Habib - Supervision (50 %) shared with P. Papadakis
(3.5 years) Topic: SLAM
- 2020 - 2023** : N. Wondimu - Supervision (50 %) shared with U. Visser
(3 years) Topic: Interactive robotic
- 2020 - 2023** : R. Cazorla - Supervision (50 %) shared with P. Papadakis
(3 years) Topic: Factory 4.0 and machine learning
- 2019 - 2023** : Y. Glemarec - Supervision (25 %) shared with AG Bosser/JL Lugin/M Latoschik
(3.5 years) Topic: Combining an Atmosphere model and Narrative model
- 2020 - 2022** : C. Le Bono - Supervision (50 %) shared with P. Papadakis and C. Lohr
(abort) Topic: Robotic
- 2019 - 2022** : A. Legeleux - Supervision (50 %) shared with D. Duhaut
(3.5 years) Topic: Machine Learning for robot
- 2016 - 2020** : A. Manoury - Supervision (50 %) shared with M. Nguyen
(abort) Topic: Increment learning in robotic
- 2017 - 2020** : F. Lasson - Supervision (50 %) shared with P. Redou
(3.5 years) Topic: Incremental auto encoder
- 2016 - 2020** : A. Delamarre - Supervision (50 %) shared with C. Lisetti
(4 years) Topic: Virtual environment for training, for early career teachers (USA)
- 2017 - 2020** : S.A. Wallelign - Supervision (50 %) shared with T. Jemal / M. Polceanu

- (3 years) Topic: An Intelligent System for Coffee Grading and Disease Identification
2017 - 2018 : A. Chedi - Supervision(50 %) shared with L. Ben Said and L. Rejeb
 (abort) Topic: Learning Classifier Systems Under Uncertainly
2015 - 2019 : C. Even - Supervision (70 %) shared with A-G Bosser
 (3.5 years) Topic: Believable Agent Assessment
2012 - 2016 : Y. Cardin - Supervision (30 %) shared with C. Bossard
 (3.5 years) Topic: Activitis Analysis for firefighters
2012 - 2015 : J. Soler - Supervision(70 %) shared with L. Gaubert
 (3.5 years) Topic: Virtual Training Environments
2012 - 2015 : M. Polceanu - Supervision (100 %)
 (3 years) Topic: Mental simulation for agent controller
2009 - 2013 : F. Le Corre - Supervision (50 %) shared with R. Querrec
 (3.5 years) Topic: Intelligent Tutoring System
2008 - 2011 : F. Tence - Supervision (70 %) shared with P. De Loor
 (3 years) Topic: Imitation Learning for Believable Agent

Research Masters Thesis Supervisor (30)

- 2024** : P. Havez-Bodivit - Supervision (100 %)
2024 : K. Fiter - Supervision (100 %)
2023 : E. Devignon - Supervision (100 %)
2023 : L.M. D'aviau de Ternay - Supervision (100 %)
2023 : G. Paton - Supervision (50 %)
2023 : E. Cottour - Supervision (50 %)
2023 : P. Cornen - Supervision (50 %)
2022 : Duc Nhan Do - Supervision (100 %)
2022 : T. Jiang - Supervision (100 %)
2022 : L. Li - Supervision (100 %)
2022 : T. Ung - Supervision (100 %)
2022 : A. Pecout - Supervision (100 %)
2021 : M. Neau - Supervision (100 %)
2020 : E. Le Chevoir - Supervision (100 %)
2020 : C. Le Bono - Supervision (50 %)
2019 : F. Auger - Supervision (30 %)
2018 : A. Legeleux - Supervision (50 %)
2017 : A. Petac - Supervision (100 %)
2016 : A. Delamarre - Supervision (100 %)
2015 : C. Even - Supervision (50 %)
2015 : G. Biannic - Supervision (50 %)
2011 : A. Jeannin-Girardon - Supervision (50 %)
2011 : Y. Cardin - Supervision (50 %)
2008 : F. Tence - Supervision (100 %)
2008 : T. H. Trinh - Supervision (100 %)
2007 : E. Creac'h - Supervision (100 %)
2004 : G. Faudet - Supervision (100 %)

Appendix : Panels

Habilitation (HDR) Examination Panels (2)

Reviewer (1)

2021 : D. Panzoli. IRIT.

Member (1)

2023 : P. Papadakis. IMTA.

PhD Examination Panels (24)

Reviewer (7)

2024 : R. Younèsmi. Université de Grenoble Alpes.

2023 : R. Ly. Université de Grenoble Alpes.

2023 : S. Rasendrasoa. Université de Rouen Normandie.

2018 : K. Tcha-Tokey. ENSAM ParisTech.

2017 : A. Arora. Université de Grenoble.

2017 : T. Allart. UBISOFT/CNAM.

2012 : H. Hamdi. Université Le Mans.

President (4)

2022 : A. Majed. ENSTA.

2022 : T. Chaffre. ENSTA.

2021 : P. Gautier. UBS.

2020 : N. Foulquier. UBO.

Member (14)

2024 : Y. Habib. IMTA.

2023 : R. Cazorla. ENIB.

2023 : Y. Glemarec. ENIB.

2023 : N. Argaw. ENIB.

2022 : A. Legeleux. UBS.

2020 : A. Delamarre. Florida International University (USA).

2020 : F. Lasson. ENIB.

2020 : S. Wallelign. ENIB.

2019 : C. Even. ENIB.

2016 : Y. Cardin. UBO.

2015 : M. Polceanu. UBO.

2015 : J. Soler. UBO.

2013 : F. Le Corre. UBO.

2011 : F. Tencé. UBO.

Appendix : Publications

Summary

Status	Year	<i>Inter. Journals</i>	<i>National Journals</i>	<i>Inter. Conf.</i>	<i>Preprints</i>	<i>National Conf.</i>
Full Professor	2024			6		
	2023	1		6	2	
	2022	1		5	1	
	2021	4		2	1	
	2020	2		4		
	2019			6		
A.Prof. (HDR)	2018	1		7		
	2017	1		3		
	2016	2		2		
	2015	1		2		
	2014			1		
	2013	3		7		1
	2012			2		1
A. Prof.	2011	3		1		
	2010	2		3		
	2009	1	1			
	2008	1		2		
	2007					1
Assistant Prof.	2006		3			
PhD	2005	1		4		
	2004	2		1		1
	2003			4		
	2002			2		1
	Total	26	4	70	4	5

References

International Journal Articles (26)

Notes:

WoS: WebOfScience

Rank: Computer Science Reference Code (ERA-CORE)

Q: Scientific Journal Rankings (SJR)

- [1] **Buche C.**, Lasson F. and Kerdelo S. (2023). Conditional autoencoder pre-training and optimization algorithms for personalized care of hemophilic patients. *Frontiers in Artificial Intelligence*. 6
[Q2]
- [2] Glemarec Y., Lugrin J.L., Bosser A.G., **Buche C.**, and Latoschik M.E. (2022). Controlling the STAGE: A High-Level Control System for Virtual Audiences In Virtual Reality *Frontiers in Virtual Reality*. 3
[Impact factor = 5.1]
- [3] Even C., Bosser A.G. and **Buche C.** (2021). Assessing the Believability of Computer Players in Video Games : a new Protocol and Computer Tool. *Frontiers in Computer Science*. 3, 121.
[Q2,Impact factor = 2.4]
- [4] Glemarec Y., Lugrin J.L., Bosser A.G., Collins-Jackson A., **Buche C.**, and Latoschik M.E. (2021). Indifferent or Enthusiastic? Virtual Audiences Animation and Perception in Virtual Reality. *Frontiers in Virtual Reality*. 72(2).
[Impact factor = 5.1]
- [5] Delamarre A., Shernoff E., **Buche C.**, Frazier S., Gabbard J. and Lisetti C. (2021). The Interactive Virtual Training for Teachers (IVT-T) to Practice Classroom Behavior Management. *International Journal of Human - Computer Studies*. 152.
[Q1,Impact factor = 3.1, Rank:A]
- [6] Nguyen S.M. , Duminy N. , Manoury A. , Duhaut D. and **Buche C.**, (2021). Robots Learn Increasingly Complex Tasks with Intrinsic Motivation and Automatic Curriculum Learning : Domain Knowledge by Emergence of Affordances, Hierarchical Reinforcement and Active Imitation Learning. *Künstliche Intelligenz*. 35, 81-90
[Q2]
- [7] Shernoff E.S., Schalscha K.V., Gabbard J., Delamarre A., Frazier S.L., **Buche C.** and Lisetti C., (2020). Evaluating the Usability and Instructional Design Quality of Interactive Virtual Training for Teachers (IVT-T) *Educational Technology Research and Development*. 68, 3235-3262
[5-year impact factor = 2.75]
- [8] **Buche C.**, Even C. and Soler J. (2020). ORION : A Generic Model and Tool for Data Mining. *Transactions on Computational Science (TCSC)*. LNCS vol 12060, 1-25
- [9] Shernoff E.S., Frazier S.L., Lisetti C., **Buche C.**, Lunn S., Brown C., Delamarre A., Chou T., Gabbard J. and Morgan E. (2018). Bridging Simulation Technology with Evidence-Based Behavior Management Practices to Support Early Career Teachers: An Interdisciplinary Approach. *Journal of Technology and Teacher Education*. 26(2), 299-326.
[Acceptance rate : 15%]
- [10] Hoareau C., Querrec R., **Buche C.** and Ganier F. (2017). Evaluation of internal and external validity of a virtual environment for learning a long procedure. *International Journal of Human-Computer Interaction (IJHCI)*. 33(10):786-798.
[Q2, WoS, Rank :B]
- [11] Polceanu M. and **Buche C.** (2016). Computational mental simulation: a review. *Computer Animation and Virtual Worlds*. 28(5).
[Q3, WoS, Rank :B]

- [12] **Buche C.**, N. Le Bigot and Polceanu M. (2016). Simulation within Simulation for Agent Decision-Making: Theoretical Foundations from Cognitive Science to Operational Computer Model. *Cognitive Systems Research*. 40:46-58.
[Q2, 5-year Impact factor = 1.3]
- [13] Richir S., Fuchs F., Lourdeaux D., Millet D., **Buche C.** and R. Querrec (2015). How to design compelling Virtual Reality or Augmented Reality experience? *International Journal of Virtual Reality (IJVR)*. 15(1):35-47.
[Rank :C]
- [14] Tence F., Gaubert L., Soler J., De Loor P. and **Buche C.** (2013). Stable Growing Neural Gas: a Topology Learning Algorithm based on Player Tracking in Video Games. *Applied Soft Computing*. 13(10):4174-4184.
[Q1, Impact factor = 2.6, Rank :C]
- [15] Tence F., Gaubert L., Soler J., De Loor P. and **Buche C.** (2013). CHAMELEON: Online Learning for Believable Behaviors based on Humans Imitation in Computer Games. *Computer Animation and Virtual Worlds*. 24(5):477-495.
[Q3, WoS, Rank :B]
- [16] **Buche C.**, and De Loor P. (2013). Anticipatory behavior in virtual universe, application to a virtual juggler. *Computer Animation and Virtual Worlds*. 24(2):111-125.
[Q3, WoS, Rank :B]
- [17] **Buche C.**, Jeannin-Girardon A. and De Loor P. (2011). Simulation theory and anticipation as a basis for interactive virtual character in an uncertain world. Application to a human-virtual characters interaction for juggling. *Computer Animation and Virtual Worlds, Computer Animation and Social Agents (CASA'11) Special Issue*. 22(2-3):133-139.
[Acceptance rate: 18% (28/154 papers), WoS, Rank :B].
- [18] **Buche C.** and Querrec R (2011). An expert system manipulating knowledge to help human learners into virtual environment. *Expert Systems With Applications*. 38(7):8446-8457.
[Q1, Impact factor= 2.9, WoS, Rank :B].
- [19] Pasco D., Bossard C., **Buche C.** and Kermarrec G. (2011). Using Exergames to Promote Physical Activity: A Literature Review. *Sport Science Review*, 1, 77-93
- [20] **Buche C.**, Chevaillier P., Nédélec A., Parenthoën M. and Tisseau J. (2010). Fuzzy Cognitive Maps for the simulation of individual adaptive behaviors. *Computer Animation and Virtual Worlds*. 21(6):573-587.
[Q3, WoS, Rank :B]
- [21] **Buche C.**, Bossard C., Querrec R. and Chevaillier P. (2010). PEGASE: A Generic and Adaptable Intelligent System for Virtual Reality Learning Environments. *International Journal of Virtual Reality*. 9(2):1-13.
[Rank :C]
- [22] Trinh T-h, **Buche C.**, Querrec R and Tisseau J. (2009). Modeling of Errors Realized by a Human Learner in Virtual Environment for Training. *International Journal of Computers, Communications and Control*. 4(1):73-81.
[Q3, WoS]
- [23] Bossard C., Kermarrec G. and **Buche C.** (2008). Transfer of learning in virtuals environments. *Virtual Reality*. (12):151-161.
[Q2, Rank :B]
- [24] **Buche C.**, Querrec R., Chevaillier P. and Kermarrec G. (2005). Apports des systèmes tutoriaux intelligents et de la réalité virtuelle à l'apprentissage de compétences. *In Cognito – Cahiers Romains de Sciences Cognitives (CRSC)*, 2(2):53-87.
- [25] **Buche C.**, Querrec R., De Loor P. and Chevaillier P. (2004). MASCARET : A pedagogical multi-agent system for virtual environment for training. *International Journal of Distance Education Technologies (JDET)*, 2(4):41-61.
[Q3]

- [26] Querrec R., **Buche C.**, Maffre E. and Chevallier P. (2004). Multiagents systems for virtual environment for training. application to fire-fighting. *International Journal of Computers and Applications (IJCA)*, 1(1):25–34.
[Q4]

International Conference Articles (70)

- [27] Lechene H., Clement B., Sammut K., Santos P., Cunningham A., Coppin G. and **Buche C.** (2024). LOTUS: Learning from Operational Teaming with Unmanned Systems. *IEEE OCEANS 2024*.
- [28] **Buche C.**, Neau M., Ung T., Li L., Wang S. and Le Bono C. (2024). RoboCup@Home SSPL Champion 2023: RoboBreizh, a fully embedded approach. *RoboCup Symposium*. LNCS 14140 Springer, pages 374-385.
[Rank :B].
- [29] Wondimu N., Neau M., Dizet A., Visser U. and **Buche C.** (2024). Anthropomorphic Human-Robot Interaction Framework: Attention Based Approach. *RoboCup Symposium*. LNCS 14140 Springer, pages 262-274.
[Rank :B].
- [30] Li L., Neau M., Ung T. and **Buche C.** (2024). Crossing Real and Virtual : Pepper Robot as an Interactive Digital Twin. *RoboCup Symposium*. LNCS 14140 Springer, pages 275-286.
[Rank :B].
- [31] Neau M., Santos P., Bossier AG. and **Buche C.** (2024). In Defense of Scene Graph Generation for Human-Robot Open-Ended Interaction in Service Robotics. *RoboCup Symposium*. LNCS 14140 Springer, pages 229-310.
[Rank :B].
- [32] Wang S., Neau M. and **Buche C.** (2024). RoboNLU: Advancing Command Understanding with a Novel Lightweight BERT-based Approach for Service Robotics. *RoboCup Symposium*. LNCS 14140 Springer.
[Rank :B].
- [33] Neau M., Santos P., Bossier AG. and **Buche C.** (2023). Fine-Grained is Too Coarse: A Novel Data-Centric Approach for Efficient Scene Graph Generation. *International Conference on Computer Vision (ICCV), Workshop on Scene Graphs and Graph Representation Learning (SG2RL)*.
- [34] Habib, Y., Papadakis, P., Fagette, A. Le Barz, C. Gonçalves, T. and **Buche C.** (2023). From sparse SLAM to dense mapping for UAV autonomous navigation. *SPIE 12525, Geospatial Informatics XIII , 125250C*.
[Rank :B].
- [35] Glémarec Y., Lugin J.L., Hörmann, A., Bossier A.G., **Buche C.**, Latoschik M.E. and Lauer, N. (2023). Towards Virtual Audience Simulation For Speech Therapy. *Intelligent Virtual Agents (IVA)*
[Rank :B].
- [36] Habib Y., Papadakis P., Le Barz C., Fagette A., Gonçalves T. and **Buche C.** (2023). Densifying SLAM for UAV navigation using volumetric fusion of monocular depth prediction. *9th International Conference on Automation, Robotics and Applications (ICARA), pages 225-229*.
- [37] Wondimu, N., Visser, U. and **Buche C.** (2023). Interactive Video Saliency Prediction: The Stacked-convLSTM Approach. *15th International Conference on Agents and Artificial Intelligence (ICAART)*. Vol 2, pages 152-168.
[Rank :B].

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[Rank :B].
- [39] **Buche C.**, Neau, M., Ung T., Li L., Jiang T., Barange M. and Bouabdelli M. (2022). RoboBreizh, RoboCup@Home SSPL Champion 2022. *RoboCup Symposium*. 13561, LNCS Springer. Pages 203-2014.
[Rank :B].
- [40] Cazorla R., Pionel L., Papadakis P. and **Buche C.** (2022). Reducing domain shift in synthetic data augmentation for semantic segmentation of 3D point clouds. *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, pages 1198-1205.
[Rank :B].
- [41] Donjat J., Legeleux A., **Buche C.** and Duhaut D. (2022). Temporal Alignment and Demonstration Selection as Pre-processing Phase for Learning by Demonstration. *35th International Florida Artificial Intelligence Research Society Conference (FLAIRS)*. AAAI Press.
[Rank :C].
- [42] Legeleux A., **Buche C.** and Duhaut D. (2022). Gaussian Mixture Model with Weighted Data for Learning by Demonstration. *35th International Florida Artificial Intelligence Research Society Conference (FLAIRS)*. AAAI Press.
[Rank :C].
- [43] Neau M., Santos P., Bosser A.G., Beu N. and **Buche C.** (2022). Commonsense Reasoning for Identifying and Understanding the Implicit Need of Help and Synthesizing Assistive Actions. *AAAI 2022, Spring Symposium on Combining Machine Learning and Knowledge Engineering (AAAI-MAKE 2022)*.
- [44] Glémarec Y., Lugin J.L., Bosser A.G., **Buche C.**, and Latoschik M.E. (2021). Conference Talk Training With a Virtual Audience System. *ACM Symposium on Virtual Reality Software and Technology (VRST)*.
[Poster, Rank:A].
- [45] Cazorla R., Pionel L., Papadakis P. and **Buche C.** (2021). Bottleneck Identification to Semantic Segmentation of Industrial 3D Point Cloud Scene via Deep Learning. *International Joint Conference on Artificial Intelligence (IJCAI)*, pages 4877-4878.
[Doctoral Consortium, Rank:A*].
- [46] Le Bono C., Papadakis P. and **Buche C.** (2020). Assessment of conformal use of personal protective equipment by object and human pose recognition. *IEEE International Conference on Safety, Security and Rescue Robotics (SSRR)*.
- [47] Glémarec Y., Lugin J.L., Bosser A.G., Cagniat P., **Buche C.**, and Latoschik M.E. (2020). Pushing Out the Classroom Walls: A Scalability Benchmark for a Virtual Audience Behaviour Model in Virtual Reality *Mensch und Computer 2020 - Workshopband*.
- [48] Delamarre A., **Buche C.** and Lisetti C. (2020). Modeling Emotions for Training in Immersive Simulations (METIS): a Cross-Platform Virtual Classroom Study *IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, pages 78-83.
[Poster, Rank:A*].
- [49] Delamarre A., **Buche C.** and Lisetti C. (2020). A Cross-Platform Classroom Training Simulator: Interaction Design and Evaluation. *International Conference on Cyberworlds*, pages 86-93
[Rank :B].
- [50] Glemarec Y., Bosser A.G., **Buche C.**, Lugin J.L. , Landeck M. , Latoschik M.E. , Chollet M. A Scalability Benchmark for a Virtual Audience Perception Model in Virtual Reality *ACM Symposium on Virtual Reality Software and Technology (VRST)*.
[Poster].

- [51] Manoury A, Nguyen S.M. and **Buche C.** (2019). Hierarchical Affordance Discovery using Intrinsic Motivation *International Conference Human-Agent Interaction (HAI)*, pages 186-193.
- [52] Walleign S., Polceanu M., Jemal T. and **Buche C.** (2019). Coffee Grading with Convolutional Neural Networks using Small Datasets with High Variance. *International Conference on Computer Graphics, Visualization and Computer Vision (WSCG)*, pages 113-120.
[Acceptance rate : 29%, Rank :B].
- [53] Delamarre A, **Buche C.** and Lisetti C (2019). AIMER: Appraisal Interpersonal Model of Emotion Regulation, Affective Virtual Students to Support Teachers Training. *Intelligent Virtual Agent (IVA)*, pages 182-184.
[Short paper, Rank :B].
- [54] Delamarre A, Lunn S, **Buche C.** and Lisetti C (2019). Interdisciplinary Collaboration and Establishment of Requirements for a 3D Interactive Virtual Training for Teachers. *Intelligent Virtual Agent (IVA)*, pages 185-187.
[Short paper, Rank :B].
- [55] Lasson F, Delamarre A, Redou P and **Buche C.** (2019). A Clinical Decision Support System to Help the Interpretation of Laboratory Results and to Elaborate a Clinical Diagnosis in Blood Coagulation. *International Work-Conference on Artificial Neural Networks (IWANN)*, pages 109-122.
[Rank :B].
- [56] Manoury A, Nguyen S.M. and **Buche C.** (2019). CHIME: an Adaptive Hierarchical Representation for Continuous Intrinsically Motivated Exploration. *International Conference on Robotic Computing*, pages 167-170. IEEE Computer Society.
- [57] Even C, Bossier A.G. and **Buche C.** (2018). Bot Believability Assessment : a Novel Protocol & Analysis of Judge Expertise. *International Conference on Cyberworlds*, pages 96-101. IEEE Computer Society.
[Acceptance rate : 43%, Rank :B].
- [58] **Buche C.**, Even C and Soler, J. (2018). Autonomous virtual player in a video game imitating human players: the ORION framework. *International Conference on Cyberworlds*, pages 108-113. IEEE Computer Society.
[Acceptance rate : 43%, Rank :B].
- [59] **Buche C.**, and Le Bigot N. (2018). REVAM: a virtual reality application for inducing body size perception modifications. *International Conference on Cyberworlds*, pages 229-236. IEEE Computer Society.
[Acceptance rate : 43%, Rank :B].
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