COSMIN BADEA

London, United Kingdom | 07775803076 | cosmin.badea23@gmail.com | https://www.linkedin.com/in/cbadea/

RESEARCH

2014 - ongoing: Artificial Intelligence Research   **Imperial College London**

- 7 years of experience in individual and collaborative research in Artificial Intelligence (AI)
- Collaborating with fellow researchers, including the head of Logic & AI, a Philosophy professor and several clinicians, on interdisciplinary work on AI, automated decision-making and Ethics in AI
- Supervised two successful individual research projects, most recently in 2021
- Have demonstrated and improved project management, time management, leadership, presentation and communication skills, through courses, academic writing, working with deadlines and milestones
- Improved my skills through many personal development courses (see section on Skills & Training)

SELECTED PAPERS & PUBLICATIONS

2021   Badea, C., and Gilpin, L.H. Establishing Meta-Decision-Making for AI: An Ontology of Relevance, Representation and Reasoning.

2021   Hindocha, S., and Badea, C. Moral exemplars for the virtuous machine: the clinician's role in ethical artificial intelligence for healthcare.

2021   Badea, C., and Artus, G. Morality, machines and the interpretation problem: A value-based, Wittgensteinian approach to building moral agents.

2021   Post, B., Badea, C. and Brett, S. Can Breaking Bad News be Justified. An investigation using the Felicific Calculus.

2020   Seeamber, R., and Badea, C. A three-tier hierarchy for building morality into artificial agents.

2020   Badea, C. Have a break from making decisions, have a MARS: The multi-valued action reasoning system.

2017   Badea, C., and Kuhn, L. The Multi-valued Action Reasoning System (MARS) - A value-based decision-making framework for practical reasoning in Machine Ethics.

PROFESSIONAL APPOINTMENTS:

September 2019 - ongoing: **Lecturer & Course Leader** on "Ethics in AI"   **Imperial College London**

- "Ethics, Privacy, AI in Society" course (aimed at Master's and PhD level) in the Department of Computing
- Responsible for creating a brand new course, leading the team; organising content into a cohesive proposal; designed novel teaching materials and handled relevant administrative aspects
- Delivered my lectures to a cohort made up of all "MSc AI" students and students from the "AI4Health" Centre; designed new evaluation methods for the course
- Received outstanding feedback from students and staff. Received a rating of 95.45 out of 100 in student surveys

October 2021 - ongoing: Lecturer & Course Leader in „Contemporary Philosophy"   **Imperial College London**

- Course aimed at Science/Engineering 3'rd and 4'th year Undergraduates, aiming to present the most relevant developments in 20'th and 21'st century Philosophy

February-March 2019: **Stand-in lecturer**: **Philosophy, Ethics, Philosophy of Mind**   **Imperial College London**

- I taught these courses in the absence of the regular professor

INDUSTRY WORK:

April – September 2013: Technology Analyst (Equity Derivatives)   **Morgan Stanley**

- Built a centralized overview system for the RFQ team; used Scala and Java to build the backend, while employing REST, HTML, CSS and Javascript to put together a rich web interface that can be used to access the system
- Planned using milestones, timelines, and the JIRA issue tracking system, and employed Agile programming
- Learned new skills: Scala, Javascript, CSS, Ivy, Spring and the various business aspects quickly

July – September 2012: Technology Analyst (Commodities Product Group)   **Morgan Stanley**

- Was assigned a greenfield project; went through all stages of software development: analysis, design & specification, planning, implementation, testing and turning over. Learned about the execution of these aspects along with time management skills and how to manage a complex project in its entirety
- Worked on a real-world project that added value: I built a solution (using Java and SQL) to pull climatic data from an FTP server, persist it to our database and then publish it to the interested parties
- Received very favourable feedback and reviews from manager, coworkers and HR department

OTHER WORK AND EXPERIENCE

March 2020 – July 2020: **Co-founder and CEO**

- Founded the online digital platform "*miscateacasa.com*" in March 2020, and was acting CEO
- By the end of summer, the platform was automated; my role became fully hands-off, as the platform is stable

- We grew to 9 contracted paid partners offering over 50 weekly classes, and over 1000 monthly bookings

October 2014 – 2018: Year Representative for Computing students doing PhD:
- Attended administrative staff-student Committee meetings where I expressed and solved important concerns

October 2014 – 2019: Graduate Teaching Assistant
- Assisted with tutorial sessions and marking in Logic, Discrete Mathematics, Databases, Reasoning about Programs, Knowledge Representation, Introduction to Artificial Intelligence, Systems Verification
- Helped students improve their problem-solving skills, subject matter knowledge, which improved my leadership

October-April 2012 & 2013: Undergraduate Teaching Assistant for Personal Mathematics Tutoring (PMT)
- Collaborating with Prof. Murray Shanahan to hold weekly tutorials and in charge of some of the marking

October 2011 – July 2012: **Undergraduate Year Representative** for Computing students

December 2010: Participated in the "Imperial Apprentice Challenge" at the Imperial College Business School:
- Selected as part of 16 finalists from the entire University; worked with a team, being team leader on a task
- Came up with a marketing idea, strategy and business plan; gave a formal business presentation

2006-2010: **Member** (and, in the final year, **co-president**) of the Student Government and class leader
- Represented many classes, proposed, organized and saw through as project manager many activities.

EDUCATION AND TRAINING

2014-2018; interruption due to health; 2021-ongoing: PhD Student, Computing　　　　**Imperial College London**
- Supervised by the head of the section of "Logic and Artificial Intelligence", Prof. Marek Sergot
- Research into artificial moral agents, ethics and practical reasoning, rule-based AI, value-alignment

2010-2014: **MEng Computing** (1st Honours Degree)　　　　　　　　　　　**Imperial College London**

2006-2010: **Intensive Computer Science class** in "Mihai Viteazul" high school (first in Romania by entry grades)
　　　　2010: Romanian Baccalaureate: 10 in Mathematics, 9.8 in Physics (equivalent UK GCE Advanced Level: A*A*)

Prizes and Awards:
- Awarded a rare EPSRC Doctoral Training Account Studentship
- ACM SIGPLAN/PLMW Scholarship worth $1,760 for attending POPL '14 research conference (2014)
- Imperial College Scholarship for attending POPL '13 research conference (2013)
- C Programming Prize – for the best group entries to the 2011 C Programming Competition (2012)
- Deutsche Bank Prize - for best overall "Topics in AI" group project (2011)
- The Morgan Stanley IT Prize
- Faculty of Engineering Dean's List - for the top 10% of the class in the 2010/11 academic year (2011)

PERSONAL SKILLS & TRAINING

- **Programming languages**: experience with (among others) Java (strongest), Scala, C++, ASP, Prolog (Logic Programming), C, Haskell, SQL, HTML, JavaScript
- **Leadership and project management skills**: allow me to handle any project with confidence, knowing I can deliver what is necessary in an efficient manner, as well as handle client interactions and team dynamics, managing and leading people to success; courses such as "Preparing for leadership", "Negotiation Skills", "Project Management", "Time Management", special leadership training "Leaders of the Third Millenium"
- **Communication skills**: allow me to convey information accurately and efficiently: courses such as "Writing for Publication", "Networking", "Public Engagement" (masterclass)
- **Philosophy**: allows me to better clarify requirements, challenge assumptions, bring in-depth analyses, a keen insight and novel approaches to the task at hand: courses such as "Philosophy of the Mind", "Ethics", the Practical Reasoning series, the Annual Lecture by the Royal Institute of Philosophy
- **Languages**: Romanian (native), English (level C2 on CEF), French (basic); am willing and delighted to learn more

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INTERESTS AND ACHIEVEMENTS

- I love puzzles and logic problems, and I joined Mensa, scoring 100% in the IQ entry test
- Enjoy travelling having visited more than 15 countries which allowed me to experience many diverse cultures
- Started fencing and within the year I won a gold, two silver & two bronze medals, a cup and ranked 356th
- Other interests: Philosophy, fencing, ballroom & Latin dancing, video games, swimming, music