

Nikhil Churamani

AI/ML Researcher

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🏠 NikhilChuramani in NikhilChuramani R^G NikhilChuramani ✕ NikhilChuramani

Dedicated AI/ML Researcher devoted to pushing the boundaries of Artificial Intelligence and ensuring its constructive influence on human society. Specialising in Continual Machine Learning, my focus lies in developing versatile and adaptive systems tailored for dynamic environments. My research centres on advancing sensory perception and behavioural learning in autonomous agents, with a strong emphasis on promoting *fairness* and *equity*. I boast of a track record of successful interdisciplinary collaborations, actively engaging with experts from diverse fields. Committed to leveraging AI and ML for innovation, I am dedicated to addressing real-world challenges.

🎓 EDUCATION

Doctor of Philosophy (Computer Science)

University of Cambridge [🔗](#)

Oct 2018 – Sep 2022

Cambridge, UK

Research focussed on developing (deep) Lifelong and Continual Machine Learning solutions for personalised and continual perception and context-appropriate behavioural learning for robots.

Thesis: [Continual Learning for Affective Robotics](#) [🔗](#)

Supervised by [Prof Hatice Gunes](#) [🔗](#)

Masters of Science (Intelligent and Adaptive Systems)

Universität Hamburg

Oct 2015 – Mar 2018

Hamburg, Germany

Research focussed on End-to-End Deep Learning solutions for Multi-modal Perception and Behavioural Learning for Social Robots.

Thesis: [Modelling Affective Cores for Behaviour Modulation in Social Robots](#) [🔗](#)

Supervised by [Prof Dr Stefan Wermter](#) [🔗](#)

Grade: 1.0 mit Auszeichnung bestanden (Distinction).

🧰 PROFESSIONAL EXPERIENCE

Postdoctoral Research Associate

University of Cambridge [🔗](#)

Oct 2022 – present

Cambridge, UK

Postdoc researcher at the [Affective Intelligence and Robotics \(AFAR\) Lab](#) [🔗](#)

investigating Federated Continual Learning solutions for Affective and Social Robotics.

Research Assistant (HiWi)

Universität Hamburg [🔗](#)

Apr 2016 – Sep 2018

Hamburg, Germany

Worked at the [Technical Aspects of Multimodal Systems \(TAMS\)](#) [🔗](#) group (Apr 2016 - Mar 2017) and [Knowledge Technology \(WTM\)](#) [🔗](#) group (Apr 2017 - Sept 2018). Research focussed on developing ML solutions for 3D pose estimation (TAMS) and Multi-modal Affect Perception for Social Robots (WTM).

Project Manager

Chitkara University [↗](#)

Developed and managed industry-academia collaboration projects ranging from Industrial Automation, IoT, AI/ML, Mobility and Big Data, partnering with industry leaders and government agencies for SME development.

Sep 2014 – Mar 2016

Chandigarh, India

Centre Head, North India Operations

Steinbeis India [↗](#)

Designed, implemented and managed Technology Transfer and Skill-building Projects for Industrial Automation of SMEs in North India.

Dec 2013 – Aug 2014

Delhi, India

Systems Engineer, Education and Research

Infosys Limited [↗](#)

Provided Project consultation and internal employee training on Programming Languages, Databases and Software Engineering.

Sep 2011 – Dec 2013

Mysore, India

SKILLS

Machine Learning	Deep Learning	Computer Vision	Continual Learning			
Multi-modal Learning	Human-Robot Interaction	Affective Computing	Robotics			
Federated Learning	Reinforcement Learning	Python	Tensorflow	PyTorch		
Jupyter	Pandas	Scikit-Learn	Git	Agile Development	C++	Java
Flower	Robot Operating System	Data Visualisation (Matplotlib, Seaborn, Plotly)				

AWARDS

DAAD AI-Net Fellowship [↗](#)

German Academic Exchange Service (DAAD)

Mar 2022

RSJ/KROS Distinguished Interdisciplinary Research Award (Finalist)

IEEE RO-MAN 2021

Aug 2021

Best Doctoral Consortium Paper Award

IEEE Face and Gestures 2020

Nov 2020

EPSRC International Doctoral Scholarship [↗](#)

Engineering and Physical Sciences Research Council (EPSRC), UK

Oct 2018

Best Graduate Student 2018 [↗](#)

Department of Informatics, Universität Hamburg

Jul 2018

IEEE CIS Travel Award

IEEE World Congress on Computational Intelligence, 2018

Jul 2018

DAAD Leistungsstipendium

Universität Hamburg Merit Scholarship for International Students

Nov 2016

TEACHING EXPERIENCE

Teaching Assistant

University of Cambridge

Mobile Robot Systems (2019, 2020), Interaction Design (2019, 2020), Affective Computing (2020, 2024) and Further Human-Computer Interaction (2022).

2019 – present

Cambridge, UK

Course Supervisions

University of Cambridge

Undergraduate/Graduate supervisions on Interaction Design and Affective Computing.

2019 – present

Cambridge, UK

MPhil Supervisions

University of Cambridge

- Continual Reinforcement Learning for Socially Appropriate Robot Behavioural Learning
- Latent Generative Replay for Resource-Efficient Continual Learning
- Learning Socially Appropriate Behaviours for Humanoid Service Robots

2020 – 2022

Cambridge, UK

SELECTED PUBLICATIONS (FULL LIST ON GOOGLE SCHOLAR)

Latent Generative Replay for Resource-Efficient Continual Learning of Facial Expressions [↗](#)

2023

IEEE 17th International Conference on Automatic Face and Gesture Recognition (FG), 2023

Samuil Stoychev, Nikhil Churamani, and Hatice Gunes

Towards Causal Replay for Knowledge Rehearsal in Continual Learning [↗](#)

2023

AAAI Bridge Program on Continual Causality, 2023

Nikhil Churamani, Jiaee Cheong, Sinan Kalkan, and Hatice Gunes

Domain-Incremental Continual Learning for Mitigating Bias in Facial Expression and Action Unit Recognition [↗](#)

2022

IEEE Transactions of Affective Computing

Nikhil Churamani, Ozgur Kara and Hatice Gunes

Learning Socially Appropriate Robo-Waiter Behaviours through Real-Time User Feedback [↗](#)

2022

ACM/IEEE International Conference on Human-Robot Interaction

Emily McQuillin, Nikhil Churamani, and Hatice Gunes

Affect-Driven Learning of Robot Behaviour for Collaborative Human-Robot Interactions [↗](#)

2022

Frontiers in Robotics and AI

Nikhil Churamani, Pablo Barros, Hatice Gunes, and Stefan Wermter

CLIFER: Continual Learning with Imagination for Facial Expression Recognition [↗](#)

2020

IEEE International Conference on Automatic Face and Gesture Recognition (FG)

Nikhil Churamani, and Hatice Gunes