



## Profile

Machine learning R&D team leader at Apple. Have developed ML models across multiple application domains. Led research team of scientists. 14+ years of post-PhD R&D experience spanning the US, UK, Germany and India. Research featured by the [BBC](#), [Wired Magazine](#), and [New Scientist](#). Have consulted for multiple start-ups.

## Research

Co-authored nearly 100 peer-reviewed publications in academic journals, cited nearly 4000 times. [h-index of 28](#) (as of Oct 2023). Have published research on a wide range of topics including computational neuroscience, time series analysis, deep learning, reinforcement learning, Bayesian methods, graph network analysis and probabilistic inference.

## Employment

<i>Senior Research Manager</i>	<b>Apple</b>	2023-present
Lead a team of scientists building ML-powered personalized experiences for Apple services. Have led projects to create and ship large-scale recommender systems powered by deep learning and reinforcement learning. Have applied LLMs to extract insights from textual data to power highly visible customer-facing features. Have deep knowledge of ML with big data, and on-device ML with privacy.		
<i>Research Manager</i>	<b>Apple</b>	2019-present
Lead team building models for predicting and optimizing user engagement across Apple's services. Helped improve user acquisition and retention, producing measurable increase in revenue. Co-led adoption of interpretable reinforcement learning. Developed Bayesian inference framework powering App Store's <a href="#">product page optimisation</a> feature for AB testing. Published papers at KDD and DSAA.		
<i>Assistant Professor, Team Leader</i>	<b>University of Kent, UK</b>	2016-2019
Led health care AI research team of 4 scientists. Delivered software for measuring biomarkers of consciousness using time series modelling and network analysis, enabling improved bedside evaluation of patients. Secured independent research funding. Published papers in high-impact journals. Research featured in a BBC Panorama special <i>The Mind Reader: Unlocking My Voice</i> .		
<i>Visiting Researcher</i>	<b>The Alan Turing Institute, UK</b>	2018
Developed ML models for automated diagnostics of brain states using EEG time series.		
<i>Senior Research Associate</i>	<b>University of Cambridge, UK</b>	2010-2016
Developed spectral coherence methods and causal models of EEG time series for predicting conscious states during anaesthesia and after severe brain injury. Research profiled in the <i>BBC</i> , <i>New Scientist</i> , <i>Scientific American</i> , <i>Der Spiegel</i> , and <i>Wired</i> . Gave public at <i>Wellcome Collection</i> and <i>New Scientist Live</i> .		
<i>Graduate Research Assistant</i>	<b>Fraunhofer Institute, Germany</b>	2005
Worked on an EU-funded project on QoS-aware broadband internet using resilient optical access. networks.		
<i>Graduate Research Assistant</i>	<b>Hamburg University of Technology, Germany</b>	2005
Developed convex optimisation and linear programming solutions for industrial applications. Published an algorithmic methodology for decentralization of real-time control systems.		
<i>Member of Technical Staff</i>	<b>Oracle Corporation, India</b>	2002-2004
Worked as software engineer in the <i>Oracle Reports</i> team, a part of Oracle's <i>Internet Application Server</i> platform. Build internal QA tools in Java, C++ and shell scripts.		

## Consulting

**DataTiger (Marketing optimisation start-up acquired by Apple)** 2018

Applied ensemble machine learning for predicting customer retention in online multiplayer games. Built unsupervised learning models for personalising timing of marketing communications.

**Rsrchxchange (FinTech start-up)** 2017

Built neural network-based NLP model for content similarity analysis of financial research reports. Developed latent factor models with Apache Spark to build financial research recommender models.

## Education

**PhD in Computer Science** University of Kent, Canterbury, UK 2006-2009

Thesis title: *The temporal spotlight of attention: computational and electrophysiological explorations* (approved with no corrections)

**MSc in Information and Communication Systems** Hamburg University of Technology 2004-2006  
Hamburg, Germany

Overall ECTS grade: 1.3 (Very Good; Passed with Distinction)

**BEng in Computer Science and Engineering** Visveswaraiah Technological University 1998-2002  
Bangalore, India

Overall percentage score - 81.46% (First Class with Distinction)

## Skills

- Big Data Modelling, Cloud Computing on AWS
- Parametric, Non-parametric and Bayesian Statistics
- Signal Processing and Time Series Analysis
- Graph Theory and Network Analysis
- **Tools:** *tensorflow, pytorch, pyro, scipy, pandas, pyspark*
- **Languages:** Python, MATLAB, JAVA, C++, C
- Deep Neural Networks
- Probabilistic Machine Learning
- Applied Artificial Intelligence
- Computer Networking and Security

## Selected Publications

**Chennu, Maher, Pangerl et al.** 2023. [Rapid and Scalable Bayesian AB Testing](#). *10<sup>th</sup> IEEE Conference on Data Science and Advanced Analytics, DSAA 2023*.

**Chennu, Martin, Liyanagama & Mohr.** 2021. [Smooth Sequential Optimisation with Delayed Feedback](#). *Workshop on Bayesian Causal Inference in Real-World Interactive Systems, ACM SIGKDD*.

Patlatzoglou, Wolff, Gosseries, Bonhomme, Laureys & **Chennu**. 2020. [Generalized Prediction of Unconsciousness during Propofol Anesthesia using 3D Convolutional Neural Networks](#). *The 42nd International Conference of the IEEE Engg. and Biology Society*.

**Chennu, Annen, Wannez, Thibaut et al.** 2017. [Brain networks predict metabolism, diagnosis and prognosis at the bedside in disorders of consciousness](#). *Brain*, 140(8), 2120-2132.

**Chennu, Finoia, Kamau, Allanson et al.** 2014. [Spectral signatures of reorganised brain networks in disorders of consciousness](#). *PLOS Computational Biology*, 10(10), e1003887