Dr Ben Chamberlain

benjamin.chamberlain@gmail.com

Expertise

Machine Learning

Deep Learning

Graphs

Software Engineering

Big Data

Data Mining

Statistics

Data Analytics

Employment History

23 – present Charm

19 – 23 Twitter

16 – 19 ASOS.com

13 – 16 Starcount

09 – 13 QinetiQ

06 – 08 Lehman Brothers

Prizes / awards

Learning on Graphs (LOG) 23: Top Area Chair

ICLR 23: #3 ranked paper (of 5000)

ICLR 22: Best paper honourable mention (top 5 of 5000)

Corinium: Top 50 UK Innovators in Data and Analytics 2018

MIT Global Fellow 2015

Royal Commission for the Exhibition of 1851: Industrial

Staff ML Researcher at Twitter working on applications of Graph Neural Networks. Oxford graduate with an ML PhD from Imperial College London. Recent publications at NeurIPS, ICML, ICLR, KDD, Recsys and ICDM. Author of a top 5 (of 5000) paper at ICLR in both 2022 and 2023. Named in Corinium's Top 50 UK Innovators in Data and Analytics in 2018. Work spans graph neural networks, representation learning, recommender systems, natural language processing and online controlled experiments. Over ten years of industry experience in social media, ecommerce, defence and security. Comfortable delivering all elements of ML projects from hands on big data engineering and algorithm design to conceptual architectures and managing large teams. Seeking a leadership role, technical or managerial, in an ML driven organisation.

Head of AI, Charm Therapeutics

Leading the ML team and reporting to the CEO of a £200m drug discovery company. Working across a suite of ML products that includes

- Large scale 3d transformers for protein-ligand cofolding
- Large language models for chemistry tasks
- Graph neural networks applied to chemical property prediction

Staff ML Researcher at Twitter

A tech lead in a team of 15 graph ML researchers. Collaborating with global product teams building recommendation systems, user modelling and working on site integrity.

- Eight publications at NeurIPS, ICML, ICLR and Recsys. At least one paper at every ICML, ICLR and NeurIPS for 2y.
- Total of 17 publications or patents
- Best paper honourable mention (top 5 papers) at ICLR 22. Third highest rated paper at ICLR 23
- Patents for graph neural network based link prediction and diffusion methods
- Technical lead of projects learning user representations, tackling coordinated manipulation of information and recommendation systems
- Improved models for the who to follow recommender system adding 100,000s more follows in A/B tests

Head of Machine Learning at ASOS.com

Lead ASOS AI, a team of 50 scientists and engineers. Line management for 15 PhD level scientists. Took over a team that had never previously demonstrated measurable value and had a 50%

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Fellowship - A nationwide award given to 7 young scientists of exceptional promise

C4ISR Best early career scientist / engineer - QinetiQ

Major Projects best early career scientist / engineer - QinetiQ

Intelligence Surveillance and Reconnaissance best early career scientist / engineer - QinetiQ

Identified for accelerated development, a program for the highest performing 3% of QinetiQ staff

St. Edmund Hall, Oxford Open Scholarship 2007 for first class academic work

St. Edmund Hall, Oxford Open Exhibition 2008 for first class academic work

Interests

Rugby

Tennis

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employee churn rate. Transformed it into a cross-functional AI team with six successful programs leading to incremental revenue in 2018 of £86M and cost savings of £6.3M and 0% employee churn. The role was 50:50 management:technical.

- Recruited a team of 15 PhD level scientists
- Delivered production systems leading to £150m attributed revenue, with A/B tests showing £86M incremental
- Delivered cost savings of £6.3M
- Developed extensive university network with Imperial, Oxford, UCL, Sheffield, and Antwerp universities all contributing to ASOS R&D
- Published 6 peer reviewed papers and 3 preprints at an organisation with no history of academic publication.
- Developed production systems for recommendations, customer profiling, computer vision, NLP and supply chain optimisation.
- Completed a PhD in under 4 years while working four days per week

Lead Data Scientist at Starcount

Applying machine learning and data mining approaches to monetise raw social data on huge unstructured data sets

- Reported to Clive Humby and Edwina Dunn, the Dunnhumby co-founders who were responsible for Tesco Clubcard
- Recruited and lead team of 6 data scientists
- Published two peer reviewed papers at an organisation with no academic publication history
- Writing machine learning algorithms (SVM, random forests etc.), design and implementation of bespoke Bayesian models, and data mining algorithms and data structures (Locality Sensitive Hashing, PageRank etc.)
- Tools employed are Python (Anaconda), Scala, Hadoop, Spark, Mongo DB, Gephi, Matlab, R, MySQL.

Research Scientist at QinetiQ

A machine learning research scientist at Britain's largest private research company. working on projects in UK government defence and security

- Designed novel message passing algorithms to parallelise natural language processing on distributed hardware in batch and streaming domains.
- Leadership of the Intelligence and Reconnaissance focus group, winning projects worth over £1m from Mi6, GCHQ and the SAS

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- Designed Bayesian inference algorithms for topic modelling of large corpora of unstructured text using distributed infrastructure. Significant experience of topic modelling beyond vanilla LDA.

- Technical award for C++ development of algorithms designed to be able to handle large volumes and velocities of data in image processing and intelligence domains including development of the fastest known JPEG facial detection algorithm.

- Technical award for Machine learning in C++, lead engineer on a Gaussian mixture model based classifier for cutting edge multi-million pound recognition and tracking system.

- Development of tools for sports tracking including design of a system to track approach shots at hole 15 of the Augusta National course and to track the heads of basketball players in the NBA

Quantitative Trader at Lehman Brothers

- Ran a trading book of $200m of interest rate derivatives

Education:

PhD Computer Science, **Imperial College London**, 14-18

Post Graduate Certificate in Management, **Henley School of Management** (Part 1 of the 3 part MBA program) 09-10

MPhys Master of Physics, **Oxford University**, 02-06

Publications:

35 publications at major ML venues (NeurIPS, ICML, ICLR etc). ICLR 22 Best paper honourable mention. Full list available on Google Scholar.