JOSEPH ARTHUR EARLY

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EDUCATION AND QUALIFICATIONS

The Alan Turing Institute and University of Southampton 2019 - 2023 (Ongoing)
PhD Candidate

- PhD with the Agents, Interaction and Complexity group at the University of Southampton (UoS).
- Fully funded by The Alan Turing Institute (ATI) Doctoral Studentship.
- Researching Interpretable Multiple Instance Learning, with applications in medical imaging.
- On-going collaboration with the UoS Cancer Sciences department investigating the use of machine learning for predicting response to cancer treatment. Lead to an award-winning publication.
- Co-founder of the ATI's Entrepreneurship Interest Group. Hosted two events in 2021.
- Student representative for the ATI 2019/20 Doctoral Cohort. Engagement with ATI Management.
- Teaching and marking for UoS undergraduate and master's modules. UoS 2021 VLE Award winner.
- Published software (400+ downloads per month). Published articles (2000+ views per month).
- Contributed to open source software: PyTorch and PyTorch Vision.

University of Southampton 2015 - 2019
Integrated MEng Computer Science *First Class Honours, Average Grade: 83%*

Completed Modules

- Computer Vision (86%)
- Machine Learning (80%)
- Simulation Modelling (92%)
- Intelligent Systems (88%)
- Programming Language Concepts (86%)
- Intelligent Agents (81%)
- Evolution of Complexity (91%)
- Deep Learning (86%)
- Reinforcement and Online Learning (86%)
- Advanced Machine Learning (74%)

- Awarded the Winton Capital Management Prize for top student in Computer Science.
- Won the Master's Group Design Project award for 'Detection of Anomalies in IoT Environments' (81%).
- Completed a dissertation titled 'Reducing catastrophic forgetting when evolving neural networks' (81%).

St. Mary's RC High School, Chesterfield 2007 - 2015

- A Levels in Maths (A*), Further Maths (A*), Physics (A*) and Chemistry (A)
- GCSEs: 8 A*s, 4 As.

TECHNICAL STRENGTHS

Computer Languages	Python, PyTorch, Java, C/C++, JavaScript (ReactJS)
Software & Tools	Git, LaTeX, Microsoft Office, Linux OS, VirtualBox, Microsoft Azure
Techniques	Supervised Learning, Reinforcement Learning, Computer Vision, Deep Learning, Genetic Algorithms, High Performance Computing

WORK HISTORY AND EXPERIENCE

BOON 2018 – 2019
Machine Learning Developer

- Worked for a start-up as part of the University of Southampton Future Worlds accelerator.
- Development of a gift recommendation service using personality deduction.

- Developed significant improvements to machine learning systems (50% increase in model performance).
- Improved experience in using unsupervised learning and natural language processing technologies.
- Heavy involvement in design and development of new systems, as well as contributing to the overall progress of the company by attending events and networking.

DSTL Group Design Project 2018 - 2019

Project Leader, Backend Engineer and Machine Learning Developer

- Project leader for the Group Design Project in final year of University.
- Worked with DSTL to investigate solutions to anomaly detection in IoT networks.
- Specialised development using machine learning to detect anomalies in sensor activity.
- Strong focus on using machine learning to support the end user.
- Developed leadership skills to co-ordinate a team comprising of different specialities.

University of Southampton Summer Internship 2018

Research Assistant

- 12-week summer internship between third and fourth year of University.
- Worked in a University research team developing a platform for Multi-UAV Coordination.
- Ethical and Responsible AI formed a key part of the research.
- Produced a poster and presentation for a research meeting with industrial clients (Thales).
- The work went on to win a Pilot Project with The Alan Turing Institute and an iCase PhD with Thales.

Roke Manor Research Summer Internship 2017

Full-stack Developer

- 8-week summer internship between second and third year of University.
- Worked on a data consolidation and web development project as a full-stack developer.
- Part of a team of existing Roke employees as well as other interns.
- Experienced working to hard deadlines; further developed programming and data processing skills.
- Took an active role in project development such as organising meetings with clients.

ACM and IEEEXtreme 2016 - 2017

Competitive Programmer

- Competed in the UK round of a world-wide programming competition for University students (UKIEPC).
  - Progressed to the North Western European regionals in Bath, England (NWERC).
- Competed in the IEEEXtreme 24-hour coding competition.
  - Placed 1st in the United Kingdom on both occasions.
  - Top 10% worldwide (2017) and top 25% worldwide (2016).
- Required efficient, precise programming to solve many problems in a relatively short amount of time.

INTERESTS

Sports

- University of Southampton Sports Societies 2015 - 2020
  - Engineers Rugby, Road Cycling, Chess Club, and Mountaineering Club
- Chesterfield Panthers Rugby Union Football Club 2007 - 2014

REFERENCES

Available upon request