

Christopher W. F. Parsonson

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TECHNICAL SKILLS

Python, MATLAB, PyTorch, TensorFlow, DGL, PyTorch Geometric, W&B, Hydra, TensorBoard, Ray, RLlib, Gym, Pandas, NumPy, SciPy, Scikit-learn, PySCIOpt, CVXPY, PuLP, Jupyter, Neovim, VSCode, Git, Linux, tmux, Sphinx, Docker, \LaTeX

EDUCATION

University College London (UCL), Ph.D.

2019 — Present

Thesis: 'Computer Network Optimisation with Artificial Intelligence and Optics', EEE Dept., Optical Networks Group

- Ten publications in leading AI/ML and networking outlets (AAAI, OFC, JLT, etc.)
- Outstanding reviewer award (top 10%) for ICML, NeurIPS reviewer
- Developed reinforcement learning/graph neural networks/swarm/evolutionary algorithms for discrete optimisation
- Developed open source software package for custom reproducible network traffic generation

University of Cambridge (Gonville & Caius College), M.Res.

2018 — 2019

Integrated Photonic & Electronic Systems Engineering, Distinction

- Projects in (1) 3D computational holography for VR & AR displays (2) signal optimisation with swarm algorithms

Imperial College London, M.Eng.

2014 — 2018

Materials Science and Engineering, First-Class Honours

- Top 5% of class (out of 120 students), awarded Morgan Advanced Ceramics prize for academic excellence

EXPERIENCE

Visiting Researcher, The Alan Turing Institute, London

2022

- Developed graph neural network and reinforcement learning algorithm for partitioning distributed deep learning jobs
- One paper under peer review
- Used Python, PyTorch, DGL, RLlib, Ray, Gym, Pandas, NumPy, SciPy, W&B, etc.

Research Scientist Intern, InstaDeep Ltd., London

2021 — 2022

- Developed graph neural network and reinforcement learning algorithm to solve NP-hard mixed integer linear programming problems exactly
- One paper published, one under peer review
- Implemented REINFORCE, DQN, and PPO reinforcement learning algorithms from scratch
- Used Python, PyTorch, PyTorch Geometric, Gym, Pandas, NumPy, PySCIOpt, CVXPY, PuLP, etc.

ConceptionX Deep Tech Startup Programme, U.K.

2021 — 2022

- Explored commercial potential of deep geometric learning in logistics and information security domains
- One of 16 teams selected (from 70+ initial groups) to pitch to 400+ investors and industry leaders at demo day

Teacher, UCL & UCL-C Consultants, London

2019 — 2022

- Machine Learning MSc, Applied Machine Learning Systems, Programming & Control Systems, Cloud Data Centres & Edge Computing, Python Programming, Mathematical Modelling & Analysis
- Roles included: Lecturing, examining, tutorial demonstrations & supervisions, course & exam design

Research Engineer Intern, VividQ Ltd., Cambridge

2018 — 2019

- Developed large FOV and eybox 3D displays without compromising size and quality using waveguides and holographic optical elements. Used MATLAB and Zemax

Research Engineer Intern, Dyson Ltd., Bristol

2017

- Thermodynamics research team working with CAD, CT scans, SEM, MATLAB, etc.
- Allocated \$20,000 budget to set up new suppliers and write Statements of Work for contracted researchers
- Participated in 2017 Hackathon, taking third place

Engineers Without Borders Challenge, U.K.

2017

- Competitive 20-week national competition to develop engineering solutions for Bambui, Cameroon
- Won entry out of 4,600+ applicants to finals where presented to 200+ engineers and 18 judges
- Finished 3rd, placing in top 0.1% of applicants

Internships at Cambridge Nanosystems, Polygelco, and Ubisense

Pre-2017