Yan Zhang

cyanogenoid@gmail.com • cyanogenoid.com
Cyanogenoid • Nationality: German

Education

PhD Computer Science (Machine Learning) Southampton, UK
University of Southampton *2016–2019*
Thesis title: *Learning Set Representations with Deep Neural Networks*
3 first-author papers in **NeurIPS** and **ICLR**, 1 in submission.

BSc Computer Science: First Class Honours Southampton, UK
University of Southampton *2013–2016*

- **Top grades of the year** in Computer Science **for all three years**. Average mark: **89.75**.
- Participated in IEEEXtreme programming competitions (group of 3), placing 79th worldwide (2013) and 50th worldwide (2014) out of ~2000 teams.
- Prizes: Zepler Project Prize (Bachelor thesis mark above 90), ICL Prize, Netcraft Prize, BAE Systems Applied Intelligence Prize, Winton Capital Management Prize.

Experience

- Contributor to *Leela Chess Zero* project: the open-source initiative to replicate and improve on *AlphaZero* by *DeepMind*. Implemented state-of-the-art Deep Learning techniques and diagnostics in **PyTorch** and **TensorFlow** to improve neural network training. Implemented flatbuffers in the Leela engine (C++) for an improved data pipeline. Leela is now one of the top 2 chess engines in the world.
- Open-sourced **PyTorch** implementations of all my papers and several state-of-the-art Machine Learning papers, including data preparation, neural network training, evaluation, and visualisations.
- Teaching assistant for *Advanced Machine Learning* module at University of Southampton during PhD. Helped student ML projects with ideas when they get stuck. Ran tutorials for new PhD students to get started with Deep Learning.
- Actively programmed in **Python** for 7 years, always using **git**. Learning **Rust**. Used **Java** for various university projects, including a RoboCode bot that won the first-year Computer Science RoboCode tournament.

Research publications

NeurIPS 2019 Yan Zhang, Jonathon Hare, Adam Prügel-Bennett. Deep Set Prediction Networks. In *Neural Information Processing Systems*, 2019.

Yan Zhang, Jonathon Hare, Adam Prügel-Bennett. FSPool: Learning Set Representations with Featurewise Sort Pooling. In submission, 2019.

ICLR 2019 Yan Zhang, Jonathon Hare, Adam Prügel-Bennett. Learning representations of sets through optimised permutations. In *International Conference on Learning Representations*, 2019.

ICLR 2018 Yan Zhang, Jonathon Hare, Adam Prügel-Bennett. Learning to count objects in natural images for visual question answering. In *International Conference on Learning Representations*, 2018.