Mary Phuong

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EDUCATION

PHD MACHINE LEARNING

October 2016 – September 2021

IST Austria. Advisor: Christoph H. Lampert.

Papers:

- MP & CHL: The inductive bias of ReLU networks on orthogonally separable data (ICLR 2021)
- MP & CHL: Functional vs. parametric equivalence of ReLU networks (ICLR 2020)
- MP & CHL: Distillation-based training for multi-exit architectures (ICCV 2019)
- MP & CHL: Towards understanding knowledge distillation (ICML 2019)
- MP, M. Welling, N. Kushman, R. Tomioka, & S. Nowozin: The mutual auto-encoder: Controlling information in latent code representations.

Talks and posters:

- ICLR 2021, ICLR 2020, ICML 2019, ICCV 2019, Amazon Research Day 2018, Google ML Summit 2017, ML Summer School 2017, Data Science Summer School 2017.

Awards:

- Microsoft Azure Research Award 2017.

Service:

- Reviewed papers for AAAI'21, NeurIPS'20, ECCV'20, ICML'19, GCPR'18.
- Mentored an intern.
- TA for Machine learning and Deep learning.

Rotations:

- Advised by Jan Maas: Theory of sparse random dimensionality-reducing maps.
- Advised by Christoph H. Lampert: Curriculum learning and transfer in reinforcement systems.
- Advised by Gasper Tkacik: Weight swapping in ensembles of neural networks.

MSC QUANTITATIVE FINANCE

September 2014 – July 2016

Wirtschaftsuniversitaet Wien, AT

- Thesis with Kurt Hornik: Comparison of boosting-based methods for ordinal classification.
- GPA: 1.03 (1 = excellent, 5 = fail).
- Holder of merit-based scholarship.

BSC APPLIED MATHEMATICS

September 2011 – June 2014

Comenius University Bratislava, SK

- Incl. study abroad at the University of Sheffield.
- GPA: 1.00 (1 = excellent, 5 = fail).
- 3x holder of merit-based scholarship.

INTERNSHIPS

RESEARCH SCIENTIST INTERN

June 2021 – October 2021

Google DeepMind, London, UK

- Project TBD.

RESEARCH INTERN IN MACHINE LEARNING

May 2017 – August 2017

Microsoft Research, Cambridge, UK

- In collaboration with supervisors, developed a method for improving representation learning using variational autoencoders.
- Implemented the method and applied it to sentence modelling.
- Wrote and submitted a paper.

DATA SCIENTIST

September 2015 – July 2016

VRVis: Biomedical Computing, Vienna, AT

- Developed components of a CNN-based model for automatic assessment of osteoarthritis severity from knee X-rays.
- Designed a protocol for more reliable ground truth collection.
- Schooled an industry partner in applied data analysis (4×3 h).

DATA SCIENTIST

October 2014 – January 2016

Erste: Credit Risk Methods & Models Development, Vienna, AT

- Developed and maintained probabilistic models for assessing the credit risk of corporates.

RESEARCH INTERN IN BIOSTATISTICS

August 2013 – July 2014

Slovak Academy of Sciences, Bratislava, SK

- Analysed EEG recordings of healthy and post-stroke subjects using tools from functional data analysis.
- Designed and implemented a resampling-based procedure for testing for differences between the populations.
- Presented the work at a conference and published a paper.

PROGRAMMING SKILLS

- Active: Python, PyTorch, TensorFlow
- Past experience with: R, MATLAB, C++

TECHNICAL BACKGROUND

- Understanding machine learning (Shalev-Shwartz & Ben-David, 2014)
- Deep learning (Goodfellow et al., 2016)
- The elements of statistical learning (Hastie et al., 2008)
- Pattern recognition and machine learning (Bishop, 2006)
- Reinforcement learning (Sutton & Barto, 2016)
- Algorithms for reinforcement learning (Szepesvári, 2009)