Punit Shah

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Education

University of Toronto — Toronto, Canada
PhD, Department of Computer Science — *Sept 2018 – Present*

University College London — London, UK
Master of Science in Machine Learning (Distinction; Dean's List) — *Sept 2016 – Nov 2017*

University of British Columbia — Vancouver, Canada
Bachelor of Science in Statistics and Computer Science — *Sept 2009 – May 2014*

Employment

TeejLab — Vancouver, BC
Technical Adviser — *Aug 2018 - Present*
Software Engineer — *Jan 2018 - July 2018*

- Lead developer with full stack ownership of cloud-based solution providing compliance and analytics services for managing public web service usage. Technology stack includes Python, Django, Docker, PostgreSQL, and AWS.
- Managed, trained, and mentored one intern and one junior software developer.

Black Duck Software — Vancouver, BC
Research Engineer — *May - Aug 2016*

- Built proof-of-concept in Java which analyzes source code to detect external API usage. Prototype was successfully received by internal stakeholders in compliance and security teams, and was moved to production.
- Mentored interns on project work, and conducted technical interviews of candidates.

SAP SE — Vancouver, BC
Research & Innovation Team Intern — *Jan - Dec 2015*

- Applied unsupervised machine learning techniques to understand the naturally arising taxonomy of open source software using textual metadata. Delivered presentations to colleagues on topics in statistics & machine learning.
- Developed web services for internal stakeholders to evaluate the open source components used in large software systems. Technology stack included Java, Javascript, and SAP HANA.

University of British Columbia — Vancouver, BC
Research Assistant — *May 2011 - May 2013*

- Conducted research in urban planning as part of Prof. Jinhua Zhao's lab at the university; a key outcome was a co-authored publication in a leading transportation journal.
- Implemented structural equation models in R to understand the relationships between various factors influencing customer loyalty to public transit systems in Chicago and Toronto.

Projects

- **MSc thesis**, advised by Prof. David Barber.

  Developed deep generative models to integrate multiple information modalities in a semi-supervised setting. Multimodal variational autoencoders with convolutional encode-decode architectures were built in Tensorflow to learn a shared representation from two input modalities. These learned representations were evaluated on downstream classification tasks, and proved to be resilient to missing data. Thesis and code available here: *www.github.com/punit-haria/multimodal-learning*

- **Textual Entailment**, Dec 2016 - March 2017. Designed stacked LSTM networks with soft attention to predict the correct order of events in a story. Code available here: *www.github.com/punit-haria/textual_entailment*

- **Portfolio**: *www.punitshah.ca/projects/*, **Github**: *www.github.com/punit-haria*

Skills

Languages	Python (Tensorflow, Pandas, Numpy, Scipy), Java, SQL, C++, R
Technologies	AWS, Google Compute Engine, Django, Docker, Linux
Advanced Coursework	Reinforcement Learning, Graphical Models, Approximate Inference, Deep Learning