

Ziyue Yang

CONTACT

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LINKS

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COURSEWORK

GRADUATE

Generative Modeling Research Seminar
Deep Learning and Neural Networks
Statistical Methods for Machine Learning
Applied Regression Analysis
Methods of Data Analysis

UNDERGRADUATE

Nonlinear Optimization
Enriched Theory of Computation
Surveys, Sampling, Observational Data
Programming on the Web
Systems Programming & C
Assembly & Computer Organization
Software Design (Java & Android)
Multivariable Calculus
Linear Algebra
Intro to Data Science

SKILLS

PROGRAMMING LANGUAGES

Python · Java · C · JavaScript · R · SQL

DATA SCIENCE & AI

Pandas · Numpy · PyTorch · Autograd
Tidyverse · Matplotlib · Scikit-Learn

RELATED TECH

AWS · UNIX · Android · Git · Jekyll

WEB FRAMEWORKS

Flask · Django · React · Express

EXPERIENCE

CENTIVIZER | MAY 2022 - Present, TORONTO, ON, CANADA

React Developer

- Implementing and designing the front-end features of *Braintagger*, a game that aims to accurately assess people's cognitive functions.
- Developing automation testing tool for the routes of *Braintagger*.

GAOTEK | AUG 2021 - NOV 2021, (REMOTE) TORONTO, ON, CANADA

Software Engineering Intern

- Implemented features for the TekShop application in Java.
- Collaborated with experienced engineers on researching Android development.

BIGTHETA | MAY 2020, (REMOTE) TORONTO, ON, CANADA

Workshop Leader; Software Developer

- Introduced essential software development tools such as Git and various IDEs.
- Explained core design principles (e.g. Object-Oriented design, SOLID).
- Demonstrated a full-stack (MERN) development process.

KWG GROUP HOLDINGS | AUG 2018, GUANGZHOU, GD, CHINA

Cross-Platform Mobile App Developer

- Implemented front-end features for the app *Cohesion* in React Native.
- Tested app features using the Jest framework.

TECHNICAL PROJECTS

FLGAN Paper | Code

An improved framework of Deep Convolutional Generative Adversarial Network (DCGAN).

- Researched potential improvements of DCGAN.
- Modified the original DCGAN architecture for sake of using focal loss.
- Implemented the proposed model using PyTorch, and trained it on various novel datasets including Fashion MNIST and FER2013.

BRIEF OVERVIEW ON GAN AND VARIATIONAL BAYES Paper

Generative modeling research seminar report (100% Final Grade)

- Briefly discussed the key takeaways of generative modeling and how they can be applied to various areas in deep learning (e.g. reinforcement learning).
- Introduced the Mean Field Variational Bayes (MFVB), a novel method for estimating high-dimensional probability distributions efficiently.

OPTIMAL PATHFINDER Reinforcement Learning Project

Software for discovering the optimal (shortest) path to a goal in a simulated maze environment.

- Implemented a Q-learning algorithm that selects moves for the learning agent, using Boltzmann stochastic policy and the epsilon-greedy policy.

EDUCATION

UNIVERSITY OF TORONTO, ST. GEORGE | SEPT 2018 - JUN 2023

Honours Bachelor of Science, Statistics, Computer Science, Mathematics

- 2018 Scholarship Recipient, University of Toronto President's Scholarship Program
- LearnAI Student, UofT Artificial Intelligence Group
- Recognized Group Leader, Enriched Data Structures and Analysis
- Orientation Leader, Computer Science Student Union