Aidan Yang

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Education

- **Queen's University** — Kingston, Ontario
  Bachelor of Applied Science, Computer Engineering and Mathematics — *Expected graduation: 2021 June*
  - Thesis: modeling the loss function of generative adversarial networks (GANs) with Rényi information measures

Research

- **Carnegie Mellon University** — Pittsburgh, PA
  Undergraduate Researcher (REUSE). Advisors: Ruben Martins and Claire Le Goues — *Summer 2020*
  - Built a program synthesis pipeline for refactoring data-science APIs (e.g., Tensorflow, Pytorch, Dplyr)
  - Generated satisfiability modulo theories (SMT) constraints using error message hyponym patterns
  - In-submission full, technical track conference paper to ICSE-2021
- **Queen's University** — Kingston, ON
  Undergraduate Researcher. Advisors: Ying Zou and Ahmed E. Hassan — *May 2019 - May 2020*
  - Investigated mobile development release documentation
  - Performed a novel empirical study on 69,851 releases and 67.7 million user reviews for 2,232 apps
  - In-submission EMSE journal paper as first author
- **Queen's University** — Kingston, ON
  Undergraduate Researcher. Advisors: Daniel Alencar da Costa and Ying Zou — *May 2018 - May 2019*
  - Investigated the co-evolution of documentation and source code in Behavior Driven Development
  - Built NLP models to establish links between evolving software artifacts achieving 79.8% accuracy
  - Accepted full, technical track conference paper at MSR-2019 as first author

Industry

- **AMD** — Markham, ON
  Software Developer (Display Abstraction Layer) — *Sept 2019 - May 2020*
  - Developed High Dynamic Range (HDR) and Freesync features for GPU drivers
- **Queen's Technology and Media Association** — Kingston, ON
  Android Developer — *Sept 2018 - May 2019*
  - Built an Android AR app (LucyAR) published on the Google Play Store
- **GF Securities** — Guangzhou, China
  Investment Banking Analyst — *Summer 2017*
  - Advised initial public offering (IPO) transitions for clients of the industrial group

Publications

- **SOAR: Synthesis for Open-Source API Refactoring**
  Aidan Z.H. Yang
  ACM SIGPLAN International Conference on Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH Companion), 2020
- **Predicting Co-Changes between Functionality Specifications and Source Code in Behavior Driven Development**
  Aidan Z.H. Yang, Daniel Alencar da Costa, Ying Zou
  IEEE/ACM 16th International Conference on Mining Software Repositories (MSR), pp. 534-544, 2019

Publications In-Submission

- **SOAR: A Synthesis Approach for Data Science API Refactoring**
  Ansong Ni, Daniel Ramos, Aidan Z.H. Yang, Ines Lynce, Vasco Manquinho, Ruben Martins, Claire Le Goues
  In-submission at ICSE-2021

- **An Empirical Study on Release Notes Patterns of Popular Apps in the Google Play Store**
  Aidan Z.H. Yang, Safwat Hassan, Ying Zou, Ahmed E. Hassan
  Under review at Empirical Software Engineering Journal (EMSE)

Teaching

- **Queen's University** Kingston, ON
  TA for Data Structures and Algorithms under Ying Zou *Winter 2018*

Presentations

- SOAR: Synthesis for Open-Source API Refactoring. Presented at: Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH 2020) Student Research Competition. November 2020
- SOAR: A Synthesis Approach for Data Science API Refactoring. Presented at: Carnegie Mellon University - Institute for Software Research. August 2020
- Predicting Co-Changes between Functionality Specifications and Source Code in Behavior Driven Development. Presented at: International Conference on Mining Software Repositories (MSR). May 2019

Awards

- Second place at Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH 2020) Student Research Competition
- SIGSOFT CAPS Student Travel Award for ICSE 2019
- Alberta Alexander Rutherford Scholarship ($2000 per year for first two years of university)

Programming Skills

- **Languages**: Python, R, SQL, C/C++
- **Technologies**: Python PANDAS and Numpy, TensorFlow, PyTorch, R, PostgreSQL, WinDBG