

# Aidan Yang

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## EDUCATION

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- **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

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- **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
  - Accepted full, technical track conference paper at 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

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- **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

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- **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  
To-appear in IEEE International Conference on Software Engineering (ICSE), 2021
- **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), pp. 10-12, 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

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- **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 in Journal of Empirical Software Engineering (EMSE)

## TEACHING

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

## PRESENTATIONS

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- 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

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- 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

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