Mia Kelly

SELF DRIVEN AND EXPERIENCED SOFTWARE DEVELOPER
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Education

University of Michigan — *Ann Arbor, MI*
M.S. in Computer Science — *Aug. 2022 - May 2024*
- GPA: 4.0/4.0

Rensselaer Polytechnic Institute — *Troy, NY*
B.S. in Computer Science — *Aug. 2018 - May 2022*
- GPA: 4.0/4.0

Skills

Programming C/C++, C#, Java, Python, Linux, Unity3D, Unreal Engine 4, OpenGL
Coursework Distributed Systems and Algorithms, Advanced Computer Graphics, Linear Algebra, Game Development, Game Engine Architecture, Artificial Intelligence, Advanced Programming Languages, Advanced Compilers

Experience

Amazon Web Services — *San Francisco, CA*
Software Development Engineering Intern — *May. 2021 - Aug. 2021*
- Worked as intern within Amazon Games Publishing Services on features related to account linking and in-game social features.
- Developed and owned project to integrate QR codes into user experience flow, working with UX and Project Management to design requirements.
- Worked on needed bug fixes and feature improvements related to AGPS Persona services.

Western Digital — *Longmont, CO*
Firmware Engineering Intern — *Sep. 2020 - Dec. 2020*
- Helped design and implement firmware for hard drives, specifically related to formatting.
- Deployed C++ code onto an embedded environment.
- Worked in a fast paced Scale Agile Framework (SAFe) including training in Agile.

Rensselaer Polytechnic Institute — *Troy, NY*
Teaching Assistant — *Jan. 2019 - Present*
- Worked as an undergraduate TA for six semesters for classes including Data Structures, Principles of Software, and Introduction to Artificial Intelligence.
- Designed and graded exams and homeworks, as well as run office hours and labs.
- Worked one-on-one with students reinforcing new concepts, providing feedback, and helping to debug code.

Research

Ironpatch — *Ann Arbor, MI*
Research Project Under Supervision of Professor Manos Kapritsos — *Jan. 2023 - May 2024*
- Researched applications of formal verification to patches of mission-critical code
- Formalized theory of patch verification within Coq using Interaction Trees as semantic model
- Participated in the DARPA Assured Micropatch Program, involving verification of patches modelling real-world systems.

Crowdsourcing Perceptions of Gerrymandering — *Troy, NY*
Research Project Under Supervision of Professor Lirong Xia — *Jan. 2021 - Present*
- Researched the problem of gerrymandering as a graph problem under imperfect voter information.
- Work published as *Gerrymandering under Uncertain Preferences* as a student abstract at AAAI 2021 Conference including a poster presentation.
- Afterwards, investigated how to analyze and collect data on perceptions of gerrymandering.
- Designed Amazon Mechanical Turk survey and analyzed results using machine learning models.
- Work published as *Crowdsourcing Perceptions of Gerrymandering* as a paper at HCOMP 2022.
- Both papers available at `https://miakelly.com/`

Blockchain Biomedical Data Sharing — *Troy, NY*
Undergraduate Researcher — *Jan. 2021 - May 2021*
- Worked with a research team in RPI's IDEA center developing a biomedical research data sharing system built with semantic web technologies on the Ethereum blockchain using smart contracts.
- Designed and implemented an ontology to represent the biomedical data lifecycle, including types of data sharing agreements.
- Researched intersection of blockchain technologies and ontologies and built on existing work when designing the new system.

HEALS Project

Troy, NY

Undergraduate Researcher

May 2020 - Aug. 2020

- Worked with the HEALS project, a collaboration between IBM and RPI to use artificial intelligence and semantic web technologies to aid in determining treatment for patients with diabetes.
- Helped design and implement a UI interface integraed with RDF graphs for physicians' use in exploring treatment options.
- Helped design and verify unit tests for an ontology autonomic deduction tool within whyis, a graph creation and reasoner tool.

Submitty

Troy, NY

Developer and Researcher

Oct. 2019 - Present

- Submitty is RPI's open source grading platform and programming autograding service used by most computer science classes.
- Designed online office hours queue system utilized by most of the computer science classes on campus.
- Designed online polling system to aid in transition to hybrid classes for the fall of 2020.
- Co-authored a poster being presented at SIGCSE 2022 on correlating student plagiarism with assignment "late day" usage.
- Designed a short course to bridge RPI's Computer Science 1 and Data Structures courses to help students prepare. Designed lessons and questions, including creating autograding configurations for the course.

Leadership and Awards

RPI Chapter of Upsilon Pi Epsilon, Computer Science Honors Society

Troy, NY

Vice President, President

May. 2019 - Present

- Served as Vice President in 2020-2021 academic year and President in 2021-2022 academic year.
- Oversaw individual committees as well as maintaining the day to day operations of the organization, including during the COVID-19 pandemic and the transition to and from online learning.

Rensselaer Polytechnic Institute Founder's Award of Excellence

Troy, NY

Recepient

November 2021

- The Founders Award of Excellence honors students who embody the qualities of creativity, discovery, and leadership, and the values of pride and responsibility.
- About 1% of graduate or undergraduate students are honored each year.

Rensselaer Polytechnic Institute 4.0 Award

Troy, NY

Recepient

November 2021

- Awarded to students who maintain a 4.0 GPA after 90 credit hours of work.
- Twenty students (1% of seniors) were honored with this award this year.