Sari Pagurek van Mossel

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EDUCATION

- Queen's University Bachelors of Computing Honours with Minor in Film and Media (Expected Graduation 04/25)
  - Achieved Faculty of Arts and Sciences Dean's Honours List

PROFESSIONAL EXPERIENCE

Software Development Engineer Intern, Amazon — June - Sept 2024

- Designed and implemented new full stack features to existing labour scheduling software within the Amazon Fulfillment Technologies organization, utilizing React.js and Java with Spring MVC
- Utilized AWS tools including Kinesis and DynamoDB in the design and creation of back-end APIs
- Conducted testing and applied software engineering principles to ensure code quality including code reviews, agile development, and technical documentation

Software Developer, Queen's Visual Cognition Lab (with Dr. Castelhano) — May - Dec 2023

- Developed research and data analysis software for cognition studies alongside psychology graduate students and professors
- Created and maintained Virtual Reality simulations using Unity and C# to collect and calculate fixation and saccadic movement data (precise eye movement metrics) for perception research
- Applied linear algebra concepts to transform 3D coordinate spaces and measure angles
- Designed and developed analysis software in Python using techniques including Hidden Markov Modelling, Switch-Point Analysis, and data processing with other Machine Learning libraries and open-source computer vision software
- Implemented analysis and calculation techniques from state-of-the-art research papers by collaborating professors

UX Design Intern, Goodself Co. — May 2022 - Aug 2023

- Held a lead responsibility in creating and updating app UI design features, prototypes, and user flows in Figma
- Spearheaded the designing of 3 major app features, communicating effectively with both product and development teams
- Efficiently conducted quality assurance testing using Github pull requests, bash shell scripting, and Xcode simulator

EXTRACURRICULAR & LEADERSHIP

Innovation Design Team Member, QMind — Sept 2024 - Continuing

- Collaborating on an undergraduate machine learning research paper to experiment with Gen AI and GANs (Generative Adversarial Networks) for super resolution photo reconstruction

Teaching Assistant, Queen's University School of Computing — Sept 2024 - Continuing

- Assisting students during office hours and marking programming related topics for third year computing courses

Vice Chair of HackHer, Queen's University Women In Computing — May 2024 - Continuing

- Coordinating the organization of the 2025 HackHer Hackathon, leading a team of 5 to carry out outreach and logistical planning

Web Designer, Queen's Computing Students Association — April 2023 - April 2024

- Designed and prototyped 3 user friendly websites using Figma to direct user traffic, maintain design style, and strengthen brand identity

Development Team Lead and User Experience Designer, Canadian Youth for Youth Empowerment — Jan - April 2023

- Managed and collaborated with a team of 5 developers to create a mental health based online platform using React.js

Web Developer, Queen's University Women In Computing — April 2022- April 2024

- Created mobile friendly pages and implemented new features to the organization's website using HTML, CSS, and JavaScript

PROJECTS

3D to 2D: Using Image Segmentation to Automate Rotoscoping — 2024

- Using a U-Net Convolutional Neural Network structure to process live footage frame-by-frame to simplify the subject into 3 discrete shades as well as separate it from the background in an effort to create a base rotoscoped animated sequence

Heatmap Display for Eye Tracking Data: View on Github — 2023

- Implemented OpenCV and other Python libraries to calculate frame by frame coordinates and generate a heatmap visualization from given eye movement fixation and saccade data

Predicate Logic Calculator: View on Github — 2022

- Developed a recursive Python algorithm to parse and evaluate a given predicate logic expression and return a completed truth table, interfacing the program with React.js using brython (a JavaScript based Python interpreter)

SKILLS

Languages and Frameworks:
HTML, CSS, Python, JavaScript, Java, Bash Shell Scripting, C, C#, React.js, Processing, SpringMVC, LaTex

Software and Tools:
Figma, Adobe Creative Suite, Xcode, Github, Unity, Cinema4D

AWARDS

Creative Computing Showcase at Queen's University Best Art Project (2023)

HackHer (Queen's University Hackathon) First Place Category Winner in Food Insecurity & Social Good (2023)

Queen's University Principal's Scholarship for Academic Excellence (2021)

OCDSB Silver Medal given to averages of 90+ (2019-2021)

Ontario Scholar Award (2021)

Lisgar Collegiate Institute Michael Rust-Smith Memorial Award for Excellence in Arts and Science (2021)

Lisgar Collegiate Institute Award for Excellence in Visual Art (2021)