Zakariya Arale

arale.zakariya123@gmail.com | zakariyaarale.github.io/Zakariya-Website/

TECHNICAL SKILLS

Languages: Python, Java, C, HTML, CSS, JavaScript, Bash/Shell scripting
Frameworks & Libraries: React, Tailwind, Pandas, Scikit-Learn, Matplotlib
Tools & Technologies: Git/GitHub, Linux, VS Code, Jira, Socket Programming, Asynchronous Programming
Concepts & Skills: Object-Oriented Programming (OOP), Data Structures, Algorithms, Machine Learning, SDLC, Scrum, Agile Methodologies, Android App Development

EDUCATION

Honours Bachelor of Science (CSC Co-op) **2024 - Present**
University of Toronto Scarborough, Toronto, ON

- Software Engineering Co-op + Math Major (GPA: 3.98)

EXPERIENCE

Teacher Assistant **Jan 2026 - Present**
University of Toronto

- Applied strong communication skills by conducting weekly tutorial sessions for 30+ students, creating practice materials, and providing clear, concise guidance to help undergraduate students master course concepts
- Demonstrated strong problem solving skills by conducting weekly office hours, providing tailored support to students in solving challenging problems and improving their understanding of course material
- Utilized analytical thinking skills by accurately grading assignments and exams and providing constructive feedback to supporting students in improving their responses

RBI SE Coach **Jun 2024 – Aug 2024**
Jays Care Foundation

- Demonstrated strong problem solving and interpersonal skills by interacting with campers, addressing their needs, and resolving conflicts to promote a safe and inclusive camp environment
- Collaborated with coaches to plan and run various sports activities in a tight time constraint, developing problem solving and project planning skills and providing captivating athletic activities for campers

PROJECTS

Zakariya-Website | HTML, CSS, JS, React, Tailwind **Dec 2025 - Jan 2026**

- Designed a responsive personal portfolio website using React, Tailwind CSS, and Vite, showcasing projects, technical skills, and testimonials
- Built interactive UI components (project cards, fade-in transitions, animated buttons, file exports), increasing user engagement by 40%
- Developed reusable UI modules (Button, Layout), resulting in code duplication being minimised by 20% while improving code readability and maintainability

SmartAir | Java, XML, Android, OOP, Firebase, Scrum, Jira **Nov 2025 - Dec 2025**

- Collaborated in a team of 5 members to design a healthcare management application enabling parents to manage asthma-related data while allowing children to interactively log and visualize lung performance metrics
- Worked as Scrum Master by planning sprints, organizing tasks, and coordinating a team, resulting in the delivery of all requirements within 3 weeks
- Designed various interfaces to refactor login module to Model-View-Presenter approach,
- Implemented respiratory metric logging (PEF and PB), triage logging, and automated PDF exports to help parents and children track and manage asthma health data daily
- Recognized as one of the top 8 projects in the class and selected by a healthcare agency for use of the application code

Personal_Portfolio | HTML CSS JavaScript **May 2025 - Present**

- Designed a responsive website with HTML, CSS, and JavaScript, ensuring compatibility for desktop and mobile users
- Developed interactive features to enhance user engagement including navigation bar, fade-in transitions and hover effects for social links
- Optimized web runtime performance by creating reusable classes across the webpage and implementing smooth animations with minimal JavaScript code

Async_Battleship | C Linux **Jul 2025 - Aug 2025**

- Utilized I/O multiplexing for linux systems and non-blocking sockets to build an asynchronous server that enables real-time gameplay for 100+ users without delays
- Engineered the API by using various data structures to track user info and ship status to broadcast updates of the game status with minimal storage usage
- Strength error handling and resource management by handling invalid inputs and client disconnections, resulting in a 90% reduction in server crashes

Cardio_Predictor | Python Scikit-Learn Pandas Mathplotlib **May 2025 - May 2025**

- Implemented a Random Forest Classifier to predict cardiovascular disease risk based on a patient's health data resulting in a model with 23% higher accuracy than baseline model
- Applied controlled train/test splits and evaluated model performance using confusion matrices, accuracy, and classification reports to effective select the best predictive model

AccountSim | Java **Jan 2025 - Feb 2025**

- Designed and implemented a bank simulator using Object-Oriented design in Java leveraging classes to securely store account information and transactions resulting in a robust banking simulator
- Applied the software development cycle to test and improve storage usage and runtime using Object-Oriented design resulting in a 30% improvement in runtime and storage usage
- Designed and implemented various algorithms to effectively validate user information enhancing the security and reliability of a banking simulator