

# UTSHA SAMANTA

Edmonton, AB, Canada

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## Education

### University of Alberta

Bachelor of Science in Computer Science with specialization

GPA: 3.85

Expected graduation - Dec. 2026

Edmonton, AB

## Relevant Coursework

- Data Structures and Algorithms
- Software Engineering
- Database with SQL
- Foundation of Computing (Python)
- Formal System and Logic
- Programming Methodology in C

## Experience

### Software Developer Intern

Jan. 2025 - Present

Alberta Newsprint Company

Whitecourt, AB

- Maintained and developed new features for in-house applications using **JavaScript, React and Python**, while integrating them with Neuron ESB to improve performance, and streamline data flow across business systems
- Modernized a legacy API by designing a custom **Python** wrapper over a **32-bit C DLL** and building a **FastAPI** layer on top, making the system 2x easier to extend and reducing code complexity by over 50%
- Wrote scripts using **Python, Pandas and Selenium** for weekly tasks, cutting execution time from 3+ hours to 2 minutes (98% reduction) significantly reducing operation costs

### Software Developer

Jun. 2024 – Dec. 2024

University of Alberta Autonomous Robotic Vehicle Project

Edmonton, AB

- Collaborated with three team members to develop a **Gazebo simulator** integrated with **ROS2** using **Python**, enabling on-demand testing and eliminating the need for biweekly field tests, accelerating development by 60%
- Maintained and updated the ARVP website by creating over 5 reusable **React components**, improving page load time by 30% and enhancing user engagement

### Python Tutor

Jan. 2024 – May 2024

Ada's Team

Edmonton, AB

- Assisted students with entry-level Python programming and coursework by conducting structured tutoring sessions in a professional environment
- Explained fundamental concepts such as data types, conditionals, loops, and data structures through examples and practical exercises, resulting in improved understanding and proficiency in Python programming among students

## Projects

### Event Mate | Java, Android Studio, Firebase

Oct. 2024 - Nov. 2024

- Led a team of 6 members to develop a lottery based event management **Android application** by working on both frontend and backend, using **Firebase** for real-time database, image storage, and backend functionality.
- Implemented features such as QR code scanning, geolocation verification, and user role-based access control using object-oriented programming (**OOP**) principles in **Java**, achieving 90% unit test coverage across 50+ test cases, and documented the architecture with UML diagrams
- Managed project planning, task allocation and **sprint reviews** following **Agile** principles, completing 48 user stories, and utilized **GitHub** for 200+ commits to ensure seamless collaboration and a high-quality deliverable.

### Chime | React, Express, NodeJS, MongoDB, JWT, Socket.io, Tailwind, JavaScript, Bcrypt

Aug. 2024 - Sept. 2024

- Created a real time chat application using **Socket.io**
- Built secure REST API for use data storage using **ExpressJS, NodeJS, and MongoDB**
- Implemented user friendly frontend using **React and Tailwind**
- Integrated JWT and Bcrypt based authentication to secure API endpoints and enhance user data protection.

### CampConnect | JavaScript, NodeJS, ExpressJS, Bootstrap, MongoDB, Cloudinary, Passport

Jun. 2024 – Jul. 2024

- Developed a web application for exploring, reviewing, and posting campsites with full CRUD functionality
- Created fully specified REST backend utilizing **ExpressJS, NodeJS, MongoDB, AJAX**
- Integrated **Cloudinary** for image storage in cloud
- Implemented user Authentication using **Passport** and Authorization mechanisms

## Technical Skills

**Languages:** Python, C, JavaScript, Java, HTML, CSS, NoSQL, SQL, Bash

**Libraries/Frameworks:** React, NodeJS, ExpressJS, MongoDB, Bootstrap, SQLite, ROS2

**Developer Tools:** Git, Visual Studio, Postman, Android Studio, Powershell, AWS, Gazebo

**Methodologies:** AJAX, REST API, UML, Agile Principles, Relational Database