

# ARUNAB SINGH

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## EDUCATION

### British Columbia Institute of Technology

Grad. May 2023

Diploma, Computer Science (Computer Systems Technology); Co-op Student

- **Clubs:** Senior Student Mentor for Computing Club; Vice-President for CodingForAll Club

## WORK EXPERIENCE

### British Columbia Institute of Technology

Jan 2023 – Present

Research Assistant

Vancouver, BC

- Built Neural Networks in **Python** with **PyTorch** that detect Mobile Malware with 96.4% accuracy using features extracted from reverse engineered **Android** App APKs.
- Wrote multi-threaded **Python Automation Scripts** for downloading datasets using **Requests** library and **multiprocessing** module, ensuring high download speeds.
- Reduced processing times by 10x through recursive implementation of **Java** methods for extracting essential features from binary manifest and Dex files within Mobile APKs.
- Conducted an in-depth analysis of various Mobile Malware Analysis and Detection Techniques by synthesizing and summarizing numerous research articles.

### Realtor.com

Jan 2022–Aug 2022

Software Engineer Intern

Vancouver, BC

- Developed and maintained testing environments by utilizing **Jenkins**, **Docker** and **Shell Scripts** that ran **automated integration tests** with every PR and QA build.
- Successfully integrated testing environments in over 10 microservices, resulting in a reduction of bugs and crashes in both production and QA environments by 40%.
- Designed and implemented **AWS Serverless** functions using tools like **Lambda**, **Step Function** and **API Gateway** to automate recurring tasks used in the onboarding of 30,000+ customers.
- Performed detailed **automation testing** for **AWS Step Function** responsible for onboarding the existing clientele of a major product.
- Created modular Page Object Models in **Typescript** using **Playwright** and utilized them in writing UI integration tests with over 85% code coverage.
- Achieved runner-up out of 80 submissions in the company's annual hackathon by implementing a video chat feature using **React** and **Twilio**.

## PROJECTS

### NBA Predictor / [Github](#)

- Developed NBA winner prediction model with 65% accuracy using **Python** and **Scikit-Learn**.
- Optimized accuracy and feature selection using cross-validation and feature importance analysis.
- Used **Machine Learning** techniques such as bagging, ensemble, and stacking to build the most accurate model.

### 2D Chess / [Github](#)

- Built a 2D Chess game in **Java** with **Object Oriented** design principles and an attractive interface with **Swing GUI**.

### CampMonk / [Github](#) / [Website](#)

- Created a campground review platform with **HTML**, **CSS**, **JavaScript** and **NodeJS**.
- Developed a robust **REST** API using **Express** and implemented CRUD operations with **MongoDB**.
- Integrated **Passport** middleware, **Mapbox** API for map display, and **Cloudinary** for media storag.

## TECHNICAL SKILLS

### Languages

Java, Python, JavaScript, Typescript, C/C++, MySQL, MongoDB

### Web Development

Django, React, Node.js, Express.js, REST, GraphQL

### Tools/Technologies

Linux, AWS, Jenkins, Docker, Git, Splunk, Split.io

### Testing/Debugging

Jest, Mocha, JUnit, Playwright, Selenium, Postman