# ROBERT NICHITA

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## Key Skills

C/C++, Python, Java, JS
Node.js/Express.js
MySQL, MongoDB, Firestore
Git & Github/Bitbucket
AWS services
Software Design

Image Processing with OpenCV
Docker/Compose
Problem Solving
Teamwork
Leadership
Articulating Technical Concepts

## Education

**University of Toronto, 2018 - Present**

Honours Bachelor of Science, Computer Science Specialist (Software Engineering Stream) - 3.36 GPA

## Work Experience

### Hybrid Cloud Developer, Caseware Inc.                    January - August 2021

- Created python scripts to perform ETL jobs on big data using Pandas and Spark running on AWS Glue Jobs
- Transformed csv data from AWS S3 into parquet filetype via python scripts run on AWS Lambda triggered by EventBridge messages. Automatically validated that the files had been converted.
- Designed event listener in Java Spring to handle AWS Athena push notifications to avoid long polling for query result sets.
- Wrote deployment configuration for AWS stacks in Serverless framework and Terraform. Coordinated and performed deployments with DevOps team.
- Designed and Implemented scheduled data ingestions from S3 through Athena into AWS Quicksight Datasets with automatic validation for successful ingestions. System is extensible to an event-triggered ingestion rather than a scheduled ingestion for streaming files when Quicksight adds partial ingestions.

### Junior Developer, Altairix Inc.                    September - December 2019

- Developed Java service calls on a service-oriented architecture to handle REST requests
- Used an Object Relational Model to perform CRUD operations with a MySQL Database, facilitating data persistence for these service calls
- Designed User Interfaces, and implemented them using the google web toolkit (GWT), styled with CSS
- Designed a new webpage element for the company's development framework. Presented the element's design and functionality to the partners for review and feedback. Later implemented this element on a webpage.
- Handed over in-progress work to other employees at the end of work term with instructions

### Independent Contractor, KitchenMate                    Aug 2018

- Manufactured various parts and assembled them into a Smart Cooker
- Participated in daily standup to update my status, suggesting improvements to manufacturing workflow and business practices

## University Projects

### Food Service Webapp

- Dockerized Django backend, Angular frontend and Nginx reverse proxy to facilitate reproducible builds between development and production builds. Configured bridge network to allow proper reverse-proxy functionality between containers.
- Created AWS EC2 instance for remote server with appropriate security groups for our deployment to run securely. Assigned Elsatic IP to keep instance at the same address over time making deployments simpler.
- Created framework for seeding databases with randomly generated data based on the Faker library, with an emphasis on making it easy to add and change seeding algorithm based on new database schemas.
- Implemented chunked file uploads to allow arbitrarily large file uploads for videos. Uploading to Google Media Storage to avoid filling small free storage space in EC2 instance.
- Used Jira task board and automated reporting to keep track of team progress and facilitate scrum process

## Personal Projects

**PetSprout - Habit building mobile app, backend tech lead**            **Dec 2021 – Present**
- Developed using MERN stack with Expo for building to Android/IOS from React Native
- Recruited mid-project as backend tech lead in order to enforce proper design, architecture, code-style, documentation and testing practices.
- Perform Dev-Ops and operational roles relating to backend operations. Handling server configuration, deployment, and plans to introduce CI/CD pipeline.
- Manage a team of 3 other backend developers (and growing!). Using Kanban methodology to organize tasks. Conferring with other leads to gather requirements and provide direction in regards to backend design.

**Ingest - Hack the valley 4 submission**                              **Feb 2020**
- Top 10 hackathon submission at https://devpost.com/software/kjdshdkja
- Created a backend server using expressjs for a news aggregation webapp.
- Integrated with python keras machine learning script from js backend, allowing for multiple asynchronous calls in parallel.

**Doodle Jump Game**                                                   **June 2017**
- Created 3D C++ based clone of doodle jump using OpenGL library.
- Implemented 3D model parser and loading algorithm in C++ for 3D models stored in the .OBJ filetype which allowed for better looking assets and faster framerates than polygon stitching techniques learned in class for

## Relevant Courses

**Engineering Large Software Systems**                                 **In Progress**
- Analysis of software design in scikit-learn and contributing several bugfixes/features
- Study of architectural/design patterns and documentation

**Introduction to Machine Learning**                                   **Feb 2020**
- Learned fundamental techniques of data engineering and algorithms for supervised learning and clustering.

## Extracurricular Activities

**FIRST Robotics Team 1334 Programming Lead**            **September 2016 - June 2018**
Oakville Trafalgar High School, Oakville, Ontario, Canada
- Created control systems for Linux based robots, organizing the Java, Python and Bash codebase in Git
- Developed image processing and sensor integrations for autonomous control of robots
- Trained and managed junior programmers
- Made presentations to sponsors explaining programming achievements raising $5000.
- Provincial Quarter - Finalists in Ontario 2018