Mattias Zurkovic

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EDUCATION

- **University of British Columbia** — Vancouver, BC
  Bachelor of Electrical and Computer Engineering — *Expected April 2022*

EXPERIENCE

- **Electronic Arts** — Burnaby, BC
  Cloud Engineer Intern — *May 2020 - Aug 2020*
  - Develop data engineering pipelines using Apache Airflow and Astronomer, including transactional ingestion for YETI.
  - Update a metrics-based pipeline for Battlefield 5 using newly defined ETL pipeline standards that decreased the DAG amount by half in the application.
  - Owned the development of a new CI/CD deployment pipeline that decreased application integration time to one verification. Included automatic release branch creation, change detection, and tag incrementation.

- **UBC Unmanned Aircraft Systems** — Vancouver, BC
  Aircraft Electronics Team Lead — *Sept 2017 - Jun 2020*
  - Responsible for leading the aircraft electronics design for several industrial grade multi-rotors. Helped develop antenna tracking software that detects changes in antenna RSSI magnitude.
  - Create a Python based application to detect objects on the flight path. Implement an HD digital video stream to increase granularity over the previous 5.8 GHz analog video stream.
  - Developed a low-side modular current sensor rated up to 60A allowing current draw to be monitored for each motor on the aircraft.

- **Best Buy Canada** — Burnaby, BC
  DevOps Engineer Intern — *May 2019 - Aug 2019*
  - Developed Docker base images and standards to be used in OpenShift for Java, NodeJS, and OpenJDK.
  - Create Python scripts and Ansible automation to help validate application and server migration.
  - Adopt the Dynatrace monitoring solution at an enterprise level scale by deploying the tool to managed clusters on premises and in the Azure cloud.

- **Best Buy Canada** — Burnaby, BC
  Software Developer Intern — *Apr 2018 - Aug 2018*
  - Helped develop a new RESTful search API using Java microservices architecture with Spring Boot.
  - Worked with Solr search engine to optimize search relevancy results and improve administrator web applications.
  - Prevent CRLF injection in administrative search application using ESAPI security library and wrote unit tests.

- **Upside Wireless** — Vancouver, BC
  Software Engineer Intern — *Mar 2016 - Apr 2016*
  - Collaborated with senior engineers to develop a signal processing algorithm that senses peaks in magnetic fields for an Android application made for accurate sprint timing.
  - Helped implement a companion web based system where runners keep history and analyze their workout data. Focused on user authentication using Java and MySQL.

Projects

- **Luup**: A REST API developed using NodeJS and MongoDB to aggregate restaurant/bar activity and send it to a React based front-end web application.
- **BandoMap**: An Express and NodeJS based web application that utilizes the Google maps API and OAuth to allow Quad-copter/RC plane pilots to find safe locations to fly.
- **Robotic Manipulator Kinematics**: Developed a 4 DOF robotic arm manipulator and wrote all the control code, inverse and direct kinematics in C.
- **Precision Brushless Motor Controller**: A modular controller for PMSM motors built on the DRV8323 gate driver and controlled by a sinusoidal commutation loop. It is capable of torque, speed and position control and uses RS-485 communication protocol.
- **Cache System Simulator**: A C and SimpleScalar based project to simulate the performances of various cache systems such as direct-mapped, set-associative and fully associative caches. Also includes a prefetcher and victim cache option.

Skills

- **Languages**: Python, Java, C, Verilog, Matlab

- **Technologies**: Git, Linux, Docker, Airflow, Ansible, AWS, Atlassian, Snowflake

- **Web Development**: Express, SQL, MongoDB, Spring, HTML/CSS