DAVID FELDT

MECHATRONICS ENGINEERING

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SKILLS

LANGUAGES: C/C++, Python, JavaScript, MATLAB, HTML/CSS, VHDL, PLC, SQL, Bash, Markdown

TOOLS / FRAMEWORKS: Arduino, AWS, NumPy, Pandas, matplot.lib, React, Bootstrap, Express.js, jQuery, Flask, Node.js, Git, Redux, Jupyter Notebook, Scikit-Learn, MongoDB, Serverless, EJS, Seaborn, SymPy, SciPy, Keras, TensorFlow, Swagger

CAD: AutoCAD, SolidWorks, Fusion 360

EXPERIENCE

Zebra Robotics | Robotics Instructor
October 2021 – Current

- Coached youth on Lego EV3 robotics using spike-based programming for robot navigation
- Instructed youth on Unity using C# for 2D game development

Lean Payments | Software Engineering Intern
January 2021 – April 2021

- Developed RESTful APIs to manage international payment orders using AWS, Node.js, and third-party APIs
- Utilized Serverless framework and AWS microservice architecture for a low cost, auto-scalable cloud infrastructure
- Integrated state management in React front-end using Redux to provide structure and advance scalability
- Implemented automated split stack deployments using AWS CloudFormation and Bitbucket Pipelines, increasing deployment speed by 300%

Thompson Flow Investigations | Engineering Intern
June 2020 – August 2020

- Serviced and installed flow monitors using compound weirs to measure flow data
- Qualified flow monitor and sensor inventory by conducting pressure, velocity, and technical readings tests
- Developed torontosmoketesting.ca to notify residents of sanitary sewer testing being conducted

PROJECTS

Drawing Bot | CNC Plotter
Jan 2021

- Built CNC plotter using Arduino to draw custom shapes
- Designed with stepper motors from recycled disk drives

Air Hogs Racer | Custom IR Remote Control Car
September – November 2020

- Integrated IR sensor with recycled helicopter remote and Arduino to remotely control vehicle
- Reverse engineered IR communication protocol by systematically isolating each controller input
- Hand-soldered through hole components and H-Bridge IC on a prototype board to support DC motor and servo

Mini Smart Home | IoT House Prototype
February 2020

- Integrated OLED display, LEDs, Servo and DC motor with Arduino; performed logic level conversion using MOSFETs
- Configured a miniature IoT smart home controlled remotely over WIFI through MQTT event broker

EDUCATION

University of Waterloo | BASc, Mechatronics Engineering
Expected May 2024

- Relevant courses: Real-Time Systems, Sensors and Instrumentation, Linear Systems and Signals, Microprocessors and Digital Logic, Data Structures and Algorithms

Udemy | Complete 2020 Data Science & ML Bootcamp
May 2021

Udemy | Complete 2020 Web Development Bootcamp
January 2021