

# Henry Marken

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## Education

### University of Alberta

Class of 2022

Bachelor of Science in Electrical Engineering

- Graduated Grade Point Average (GPA): 3.4/4.0
- Relevant Courses: Programming for Electrical Engineers, Embedded System Design, and Intelligent Systems

## Work Experience

### Profire Energy

April 2022 – Present

*Quality Control Test Engineering-in-Training*

- Automated test fixtures using Python to identify counterfeit parts within a circuit to increase production by 35%
- Developed test firmware using C and LabVIEW software to assess safety standards of 200+ systems/day
- Collaborated with the R&D team to help create new safety circuits and tests to minimize product issues
- Repaired defective products with signal data and circuit issues, using a Saleae logic analyzer and multimeter
- Supported production at the manufacturer for version updates by debugging test firmware and hardware issues

### Enterra Feed Corporation

January 2020 – April 2020

*Operations Engineering Intern*

- Identified and resolved issues with automation controls on company machines to increase production by 2000kg/day
- Adjusted optical sorter color thresholds, pixel counts, and product intake to reduce sorting time by 2+ hours
- Reviewed and documented standard operating procedures to promote the proper and safe use of company equipment
- Optimized centrifuge speed and gap settings to reduce the quantity of waste produced and save 100 liters/day of product

## Projects

### Photofinder

Node, Express, MongoDB, Bootstrap, JavaScript, HTML, CSS

- Full-stack web application built to help document the various photography locations and share them with other users
- Implemented a RESTful API with the help of Node and Express using CRUD operations to manage the database
- Used MongoDB Atlas for persistent data storing of user reviews, login information, and photo locations

### Photography Portfolio Website

Next, React, Tailwind CSS, Javascript, HTML

- Front-end web application showcasing photographs and photoshoots along with an about and contact page
- Designed multiple interactive pages using static routing and components used in React for faster performance
- Created a responsive web application using Tailwind to style and create a more user-friendly and interactive design

### iPhone Gimbal

C, C++, Python, Electrical Hardware Design

- Capstone project three-axis electronic gimbal with a feedback loop to stabilize and return a camera to a desired set point
- Handled multiple processes, IMU spatial information, PID controller, and fault handling using an RTOS framework
- Designed voltage dividers and op-amps circuits for state-of-charge indicators and temperature monitoring

## Skills

Programming Languages: JavaScript, HTML, CSS, Python, C, C++, SQL, Assembly

Frameworks and Libraries: Next.js, React.js, Node.js, Express.js, MongoDB, Tailwind CSS, Bootstrap

Development Tools: Git, Github, Bitbucket, Jira, Confluence, MySQL, Postman