

Michael Kohlberg

MichaelKohlberg.com

Full Stack Software Engineer

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Electrical and Computer Engineer in Training

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Professional Summary

I am a full stack software engineer with a background in mechanical and electrical engineering and a passion for getting things done.

Education

University of Missouri Columbia BS Mechanical Engineering, Computer Science Minor 3.57 GPA 2017

General Assembly Software Engineering Immersive

13-week Coding Bootcamp 2022

Work Experience

Kaw Technology Group

Full-Stack Software Engineer

May 2023 - February 2025

- Led a hardware/software company focused on automating survey data collection using LiDAR scanners.
- Engineered a web platform showing 3D visualization of point clouds, graphical trendlines for tonnage and volume change, heatmaps, contour maps, and slope analysis.
- Designed and manufactured solar powered LiDAR scanners tailored for remote survey applications.
- Designed and implemented automated PDF reporting for survey data insights in a printable format.
- Defined deliverables and made key decisions on technology and market direction.
- Architected tech stack including React, Node, Python, ROS, C++, PDAL, Kubernetes (Docker) and MongoDB.

Firefly Integrations

Mobile Application Developer

March 2022 - March 2023

- Developer for Vegatouch Mira and Eclipse mobile applications which allow users to control and monitor the appliances in their recreational vehicle such as lights, thermostat, water tanks, generator, inverter, solar, etc.
- Wrote and deployed JSON files on AWS to be fetched by the VT mobile apps in order to customize the end user's experience according to varying manufacturer safety requirements.
- Integrated mobile app with the Multiplex control system which was affixed in each RV.
- Controlled third party appliances using RV-C protocol on CAN bus.
- Cross-platform development using Ionic Capacitor with AngularJS.

KCMO Movers

Owner / Operator

2014 - 2022

- Managed a small moving business including all marketing, billing, customer relations and employee management.

New Frontier Technologies

Traveling Controls Engineer

March 2020 - March 2021

- Installed electrical control panels, wireless temperature sensors, modem and router to allow power savings on freezers, lights and other appliances at gas stations and fast food restaurants.

Kays Engineering

Controls Software Engineer

Jan 2018 - March 2020

- Developed object oriented PLC program for industrial drilling and boring machinery using Beckhoff TwinCAT.
- Worked directly with all levels from OEM to day-to-day operators to produce user-friendly HMI.
- Offered both CNC G-code functionality along with simpler, conversational programming for the user.
- Read and edited electrical prints to understand how a machine would work.
- Integrated and parameterized 240V / 480V VFD and servo drives as well as other peripheral hardware.
- Utilized git source control on Microsoft Azure, Remote Desktop and other tools to troubleshoot with customers.

Kays Engineering

Controls Engineering Intern

Summer 2017

- Developed communications for new Smart Panel PC to control the original PLC in older machines.

Alliant Energy

Natural Gas Engineering Intern

Summer 2016

- Modeled pressure and flow in natural gas pipelines using Excel and GIS software.

Associated Electric Coop Inc.

Reliability Engineering Intern

Summer 2015

- Assisted in revamping coal power plant preventative maintenance operations.

Personal Coding Projects

PokéClone

Tech: HTML, CSS, Javascript, PokéAPI, Canvas

- Pokémon based RPG where a user battles randomly encountered or searchable real Pokémon fetched from API

OoIHaveThat

Tech: Postgres, Express, Node, Bootstrap, EJS, MapBox API, Data seeding, Sequelize

- Peer-to-peer tool sharing platform allowing DIYers to request tools from other nearby users

Reart

Tech: React, MongoDB, Express, Node, Mongoose, RestfulAPI, Stripe, Postman

- Subscription art rental platform where users select keyword preference tags which allows our automated warehouse to personalize suggestions for quarterly art rentals/purchases

AlgoViews

Tech: React, MongoDB, Express, Node, RestfulAPI, Async Javascript

- Algorithm visualization tool aimed at students which sorts an array on-screen according to various algorithms

KCMOMovers.com

Tech: HTML, CSS, Javascript, PHP, jQuery, Flexbox, Grid

- Personal company website for marketing purposes as well as coding practice

Other Computer Proficiencies

AngularJS, Python, ROS, VPN, PM2, SystemCTL, Ubiquiti, RaspberryPi, AWS, S3, ASP.NET Core, C#, Microsoft SQL Server, Entity Framework, Laravel, Eloquent, MySQL, NoSQL, SQL, Java, C, Matlab, Simulink, Django, TypeScript, JSX, JSON, XML, UI/UX, PLCs (TwinCAT), Git (Github, Azure), Kubernetes, Docker, Microsoft Office (Excel, Access), Linux, Windows, MacOS, Remote Desktop, Agile, Scrum, Authorization, Authentication, WordPress, CAN Bus, RV-C, PCANN, Ionic, Capacitor, Ignition, AutoCAD, SolidWorks, OnShape, Allen Bradley, GIS, Synergy, LabView

Other Skills and Interests

Long-term planning, Electrical troubleshooting, Asset management, Solar / Battery / Generator configurations, RV van conversions, Homeowner DIY, Mobility, Communication, Work ethic, Integrity.

Honors and Achievements

- Passed Fundamentals of Engineering Exam for Electrical & Computer Engineering (without EE degree)
- Fabricated thermoelectric generator allowing a campfire to charge a cellphone battery (Senior Capstone)
- Web Manager for Mizzou Electric Car Team (completed electric drivetrain conversion of Chevy truck)
- Web Manager for Mizzou Robotics Club (fabricated battle bot and competed against other universities)
- Designed battery/solar system for my personal RV (400W of solar, 600Ah of Renogy batteries)
- Developed CounterMeme (website similar to reddit where memes are created and battled head-to-head)
- HackMizzou 2016 contestant (Led a team to develop our idea of a grocery finder app for Walmart)
- High honor roll for 9 straight semesters at University of Missouri College of Engineering