

Theo Lincke

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Summary

Computer and software engineer with 2+ years of experience in object oriented design and network communications in embedded applications. Looking for a Co-Op or summer internship / research position.

Education

CU Boulder

Working towards BS Computer Science

Working towards BS Applied Mathematics

Expected Graduation - May 2022

GPA: 3.959

Applicable Experience

Kelvin Inc

Software / Embedded Software Engineer

Intern

May 15 2019 - Present

Control / automation software for industrial machines.

- In a real time initiative. Provided case studies on RTEMS, FreeRTOS and PREEMPT_RT linux kernel patch on x86 and ARM.
- Created “Flight” applications - designed to fit into company developed IIOT application framework in C++.
- Set up Linux servers in Arch, Ubuntu and Gentoo

CU Boulder Robotic Mining

Lead Embedded Software Engineer

August 2018 - Present

Autonomous robotic navigation and embedded programming

- Innovating an application based modular object oriented robotic framework using ZeroMQ sockets.
- Designing my own language independent serialization library for network data transport
- Integrating device drivers for camera streams, serial communication and PWM signals in embedded and POSIX C.

Notable Projects

- Head of embedded software on an autonomous mining robotics team
- Simple navigation and localization stack for an autonomous miniature rover
- Linear algebra and neural network from the ground up in C/C++
- Virtual any dimensional rubik’s cube solver in Java
- Eigen Basis / SVD facial detection system in MATLAB

(github.com/curmc/sentinet_cpp)
(github.com/tlincke125/discrete)
(github.com/tlincke125/cTensor)
(github.com/tlincke125/rubiksCube)
(github.com/tlincke125/eigenfaces)

SkillSets

Languages

C++ ----- C ----- Python ----- Java ----- Bash ----- MATLAB / Simulink ----- Assembly ----- Verilog

Software Frameworks and Libraries

Zero MQ ----- ROS/ROS2 ----- Protobuf ----- OpenCV ----- C/C++ Standard Libraries

Linux

Arch Linux (Day to day operating system) ----- Ubuntu ----- Kali ----- Gentoo ----- Yocto Framework ----- Custom Compiled
Network Systems (TCP UDP protocols) ----- Device drivers (basic serial, ethernet, wireless, and keyboard drivers).

Electrical Engineering

Kicad / EAGLE PCB Design ----- Teensy, Arduino ----- Platformio ---- U-Boot ----- JTag ----- Instrumentation / Measurements
