Daniel Wahl

INFORMATION

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EXPERIENCE

PRESENT 2018/08 — ROBOTICS CONSULTANT, TRAILER CONNECT — Golden, CO
Outrider

- Developed control software for *Outrider's* Trailer Connect team, responsible for autonomously connecting yard trucks and trailers.
- Used ROS and MoveIt to interface with Motoman industrial robot arm, integrated Sick LIDAR and Intel RealSense camera for perception and control.
- Wrote finite state machine library, currently in use throughout *Outrider* system.
- Supported early prototyping efforts and on-site systems integration with initial customers.

PRESENT 2017/11 — ENGINEERING CONSULTANT, SOLE PROPRIETOR — Chicago, IL
Consequential Technologies

- Wrote embedded software for *HDT's* Hunter WOLF logistics carrier, running on STW ESX-3CM controller.
- Investigated novel datasets and developed trading strategies for *Landscape Capital Management*, using Pandas and Scikit-learn.
- Designed solar meter and mesh network electronics for *Sigora International's* solar microgrid in Haiti, using Altium.

PRESENT 2017/01 — TECHNICAL ADVISOR, FOUNDING MEMBER — Chicago, IL
JustDesign Cooperative

- Helped found a worker-owned consulting firm, providing professional design services for community groups and environmental justice projects.
- Primary developer of solar meter electronics and software for *Iluméxico*, currently deployed in 20K+ homes in rural Mexico.
- Created the Air Quality Chicago website for *Environmental Law and Policy Center*, used for tracking citizen science PM2.5 monitoring.
- Provided technical support for *Pilsen Environmental Rights and Reform Organization's* research and advocacy into Chicago's lead water crisis.

2018/12 2010/01 — SENIOR CONTROLS ENGINEER, ROBOTICS — Evanston, IL
HDT Engineering Services

- Primary developer of embedded control software for upper arm and wrist actuators in the Modular Prosthetic Limb, part of DARPA's Revolutionizing Prosthetics program.
- Created ROS interface for HDT's robotic arms and actuators. Generated URDFs from Solidworks models, wrote CANbus communications interface, and used MoveIt for arm teleoperation and semi-autonomous control.
- Lead embedded software engineer for tactor, a small haptic feedback device designed for DARPA's RE-NET program, currently undergoing initial patient trials.
- Designed tactor control board, with CANbus, force sensing, and bluetooth wireless interface, also for DARPA program.
- Wrote custom real-time embedded code for Protector vehicle and other HDT robotic applications in Linux and QNX, on both ARM and x86 processors.

2009/12 2007/06 — CONTROL SYSTEMS ENGINEER — Rochester, NY
Delphi Automotive, Fuel Cells

- Primary developer of fuel cell system control software in Matlab Simulink with RTW.
- Created system plant models for control tuning and design simulation.
- Supported test engineering and generated custom LabView test applications, assisted in the design of control and power electronics.

EDUCATION

2007/04 2006/08 — MASTER OF SCIENCE IN MECHANICAL ENGINEERING — Ann Arbor, MI
University of Michigan — GPA: 3.81/4

2006/05 2003/08 — BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING — Buffalo, NY
University of Buffalo — GPA: 3.42/4