Keenan Johnson

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TECHNICAL SKILLS

C
C++
Python
NodeJS
Labview
Startups
Networking
PCB Design
PCB Layout
Battery Systems
Fault Tolerance
Data Acquisition
Control Systems
Open Source Software
8051 Assembly Architecture
Manufacturing Organization Design

PUBLICATIONS

[1] K. Johnson. Telemetry processor design for a remotely operated vehicle. In *Proc. International Telemetering Conference*, San Diego, CA, Oct. 2014.

[2] K. Johnson. Telemetry processor design for a remotely operated vehicle. *IEEE's The Bridge*, Nov. 2014.

[3] K. Johnson. Best practices for safety critical software. In *Interdrone*, Las Vegas, NV, Sept. 2018.

[4] K. Johnson. Everyone's going open source: What's driving the movement in the drone industry? In *AUVSI Exponential*, Chicago, IL, Apr. 2019.

HONORS

ARM Innovator
American Society for Gravitational & Space Research Presentation Award
IEEE-Eta Kappa Nu
Tau Beta Pi Engineering Honor Society
Eagle Scout

EDUCATION

MISSOURI S&T

B.S. Computer Engineering
Minor: Computer Science

EXPERIENCE

IMPOSSIBLE AEROSPACE | Founder - Head of Engineering

Aug. 2017 - Oct. 2019 | Sunnyvale, CA

- Designed the electrical system and printed circuit boards in the US-1 aircraft.
- Served as the acting CTO; hired and lead the engineering team of hardware and software engineers.

SPACEX | Launch Software Engineer

Jan. 2013 - Aug. 2017 | Los Angeles, CA

- Developed software used to control and monitor the operation of all SpaceX vehicles.
- Supported launch, mission, and test operations as a software mission control operator.

MARS ROVER DESIGN TEAM | Team Lead, Telemetry and Control

Aug 2013 – Dec. 2014 | Rolla, MO

- Designed and manufactured custom P.C.B. that contains a main A.R.M. architecture processor, an AVR data processor, G.P.S. sensor, Bluetooth radio, and other communication hardware
- Developed real time software in C for both ARM and AVR processors to control the operation of the rover

MINERS IN SPACE DESIGN TEAM | President

July 2011 – Aug. 2012 | Rolla, MO

- Lead team of 20 in proposing, designing, constructing, conducting, and evaluating Micro-gravity research in partnership with N.A.S.A.

PROJECTS

UNIFIED AND OPEN HOME AUTOMATION

- Created an open source home automation embedded system that utilizes the home power network for communication.

NEURAL NETWORK MUSICAL GENRE CLASSIFICATION

- Created a Neural Network to classify the genre of audio samples.
- Achieved 74.68% classification accuracy, rivaling 70% human study accuracy.

MICROGRAVITY TESTING OF ACTIVE DECOMPRESSION CPR

- Developed new method for single rescuer C.P.R. in Microgravity in which the rescuer positions themselves behind the victim and performs Active Decompression C.P.R. using a suction cup device.
- Designed instrumented C.P.R. dummy to measure and record depth and rate of compressions using two accelerometers and a pressure sensor.

MICROGRAVITY TESTING OF SATELLITE THRUSTER

- Tested propellant management device in R-134a cold gas propulsion system for a micro-satellite in micro-gravity.
- Constructed automated test bed using Labview for control and data acquisition.

MINING USER SIMILARITY IN GEO-SOCIAL NETWORKS

- Calculated the spatial similarity of two trajectories using statistical clustering techniques in order to mine semantic information about user similarity.

MEGAMINER ARTIFICIAL INTELLIGENCE COMPETITION

- Designed successful A.I. for 4 competitions using C++ and C#