

# Keenan Johnson

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## EDUCATION

### MISSOURI S&T

#### B.S. COMPUTER ENGINEERING

Minor: Computer Science  
Rolla, MO

## SKILLS

C  
C++  
Python  
NodeJS  
Labview  
Startups  
Networking  
PCB Design  
PCB Layout  
Networking  
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

## EXPERIENCE

### IMPOSSIBLE AEROSPACE | FOUNDER - HEAD OF ENGINEERING

Aug. 2017 - Sept. 2019 | Sunnyvale, CA

- A founder of the company and designed most of the original electrical system and circuit boards in the US-1 product.
- Served as the acting CTO and lead the engineering team.

### 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#