

Derek J. Goddeau

SOFTWARE ENGINEER · AUTONOMY · ROBOTICS · SECURITY

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Summary

Talented and reliable software engineer. 3+ years experience rapidly prototyping software in AI and security with great success and 12+ years experience with systems troubleshooting, networking, and security. Technology enthusiast who loves Vim, Linux, Rust, Python, and enjoys customizing all aspects of computer systems. Continuously learning, trying new technologies, and applying it to open source projects.

Experience

NASA Autonomy Incubator (AMA)

Hampton VA, USA

SOFTWARE ENGINEER

2017 - Present

- Successfully and rapidly developed an in space assembly prototype winning further funding.
- Gained expertise with the Robot Operating System (ROS) and MoveIt! frameworks.
- Obtained a deep understanding of robotic grasping and object manipulation.
- Leveraged aruco markers and point cloud data for object detection and localization.
- Used Data Distribution Service (DDS) and Lightweight Communications and Marshalling (LCM) to interface with other frameworks (libbot2).

US Navy - VAW-120/VRC-40

Norfolk VA, USA

AVIONICS DIVISION TEAM LEAD

2006 - 2012

- Took charge of workcenter and provided guidance for 12 junior personnel in the accomplishment of scheduled/unscheduled maintenance.
- Enhanced security posture by correcting multiple discrepancies in organizational procedures.
- Eliminated issues affecting C-2 aircraft Navy wide by building, testing, and deploying a custom device for calibrating sensor displays.
- Audited and ensured security of all cryptographic devices and keys resulting in zero inspection discrepancies.
- Flawlessly maintained and managed more than 50 pieces of test equipment ensuring 100 percent availability.
- Isolated and repaired 112 complex datalink, communication, and electronic warfare discrepancies on five E-2/C-2 variants directly contributing to a 27 percent increase in aircraft mission readiness.

Open Source

Question

crates.io/crates/question

BENEVOLENT DICTATOR FOR LIFE (BDFL)

2017 - PRESENT

- Successfully developed a useful library seeing nearly 3,000 downloads to date.
- Learned the Rust ecosystem and became proficient at Rust idioms such as the builder pattern.

Finding Ray

gitlab.com/finding-ray

TEAM LEAD

2016

- Gained expertise in cellular and wireless network security developing a system that can detect malicious cellular base stations.
- Implemented the application packet capture and decoding interface to the software defined radio in Python and parallelized the application.
- Built and deployed infrastructure for continuous integration on both ARMv7 and x86 utilizing Debian, OpenBSD, GitLab CI.
- Streamlined development environment setup for the team with bash scripting automation and by dockerizing the GNU Radio dependency.
- Designed, built, and tested a custom ARMv7 tablet with a software defined radio for the application including a custom 3D printed case.

Skills

Programming

Python, Rust, C/C++, bash, ~~TeX~~, R, Hy, Nix

Dev Tools

Vim, Git, Docker, Jupyter Notebooks, GitLab & GitLab CI, Codecov, Tox, Sphinx, Cargo, AppVeyor, CMake

Operating Systems

Debian, OpenBSD, Ubuntu

Frameworks and Libraries

Kivy, Robot Operating System (ROS), MoveIt!, GNU Radio, NumPy, SciPy, libsodium, Matplotlib, Eigen, Wireshark

Other Technologies

DDS, IDL, LCM, HTML, CSS, JSON, YAML, Markdown, reStructuredText

Languages

English, German

Education

Old Dominion University

Norfolk VA, USA

PURSUING B.S. IN COMPUTER SCIENCE

2014 - PRESENT

- Successfully lead the "Finding Ray" project to develop a mobile embedded IMSI-Catcher detector in only three months.
- Lead the software team for the ODU Low Earth Deorbiter (OLED) CubeSat project.