Daniel John Cook

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Summary.

My work integrates elements of the principles of software construction with the rigor of scientific research. I am solution oriented with a passion for writing clean code and concise documentation. I am naturally curious, independently motivated, and respectfully creative. I take specs and turn them into products. As a DevOps specialist, I strive to give my fellow developers the tools they need to ★ shine bright ★.

Work Experience.

DevOps Engineer at **Innovation Rocks GmBH.**

November 2020 - Present

- → Metric collection with Prometheus for all microservices. This ongoing project involves extensive use of the façade design pattern in C++, Go, and Python and extensive dashboarding in Grafana.
- → Streaming data architecture running on Kubernetes using Redis Streams, Pub/Sub, and FIFO Queues.
- → Co-ownership of CI/CD pipeline for applications written in C++, Go, Python and Bash.
- → Plan and implement REST API in Golang with unit testing, integration testing and total code coverage.
- → Responsible for customizing and distributing custom Ubuntu images for the company's Linux systems.
- → IPSec VPN security configuration for all Linux Systems.
- → Technologies: Go, C++, Python, Bash, Redis, Prometheus, Grafana, Kubernetes, Helm, Istio, Ansible, Google Cloud.

Devops Engineer at **Visualix GmBH.**

January 2020 - November 2020

- → Built automated provisioning and deployment software using Ansible's Python API, which was used to migrate an on-premise application to a cloud-based application. Visualix GmBH was acquired by Inpixion for these very purposes (Nasdaq: INPX).
- → Integrated failure detection software with remediation capabilities and alerting into existing containerized applications in C++ and Python.
- → Encryption project for ZMQ Pub/Sub and Dealer/Broker communication patterns; in less than 4 month, the application was migrated to secure status.
- → Technologies: Python, Bash, Ansibile, Packer, Docker, Podman, ZMQ, Hetzner Cloud.

Cognitive Scientist at **Helix Cognitive Computing GmBH.**

February 2018 - December 2019

- → Developed in-house application to collect, analyze, and export Java application logs over UDP using Python, Prometheus, Grafana and Google’s Mtail.
- → Modeled, simulated, and analyzed a P2P network consensus protocol. This was perhaps the highlight of my time at Helix. I modeled a novel Monte Carlo Marko Chain Consensus algorithm operating on Directed Acyclic Graphs.
- → Defined containerized applications and microservices with Docker and docker-compose, AWS, and my knowledge of the Linux network stack.

→ Developed a deployment pipeline for AWS EC2 instances using cli tools (e.g boto3).
→ Technologies: Python, Bash, Java, Javascript, Prometheus, Grafana, ZMQ, Docker, AWS.

Graduate Researcher at **Fraunhofer Institute for Telecommunications, Image Processing and Machine Learning Department**

February 2018 - December 2019

→ Investigated the electromagnetic spectrum of VR devices on the quality of acquired brain signals.
→ Analyzed the statistical differences of neural responses to video codecs.
→ Evaluated the perceptible differences of video and image codecs.
→ Conducted psychophysical experiments on visual perception.
→ These projects resulted in academic publications on the perceptible differences of video codecs on image streams.
→ Technologies: Python, Numpy, Scipy, Matplotlib, Pandas, Matlab.

Scientific Editor at **ScienceOpen GmBH.**

January 2014 - December 2019

→ Managed over 100 peer reviews on 63 publications in the natural sciences for the journal ScienceOpen Research (ISSN: 2119-2006).
→ Prepared monthly analytic reports on site-traffic behavior in R & Python.
→ Programmed Python web-crawlers to gather data from competitor websites. This was one of my first software projects that helped ScienceOpen.com reach 72m index academic articles on their search-engine. I'm happy to share my letter-of-recommendation from the CEO of the company.
→ Planned, implemented, and tracked sales & marketing KPIs using Google Analytics.
→ Technologies: Python, TKinter, Javascript, D3.js, Google Analytics, R-Studio.

Education.

MSc, Cognitive Neuroscience from **Humboldt Universität zu Berlin.**

October 2014 - November 2017.

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→ Thesis title: The Discrimination of Fractal Patterns in Human Vision.
→ Awards: Einstein Master's Award, 2017.
→ Publications: Cook, D., Martins, M., Villringer, A. (2018). *How domain-specific is Merge?* doi: 10.12775/3991-1.016

Postgraduate Certificate, Cognitive Science from **University of Central Florida.**

August 2009 - June 2012

BA, Philosophy, Minor Psychology from **Eckerd College.**

January 2005 - August 2007.

Technology and Skills.

→ DevOps, SysOps, Observability, Predictability, Openness, Statistics, Prometheus, Grafana, Architecture, Design Patterns, Microservices, Linux, Go, C++, Python, Bash, DevOps, Kubernetes, Containers, YAML, Json, Ansible, Google Cloud, AWS, TCP/IP, Networks, Distributed Systems.