Elliot Trapp

Software Engineer

Software Engineer with 6 years at NASA JPL, skilled in AWS, infrastructure as code, data visualization, and flight software. Holds two graduate degrees in Computer Science and Philosophy, blending technical expertise, critical thinking, humility, and strong communication. Early legal experience and passion for justice align with Everlaw's mission.

WORK EXPERIENCE

NASA Jet Propulsion Laboratory   **Pasadena, CA | 01/2019 - Present**
NASA federally funded research and development center specializing in robotic space exploration

Operational Cloud Store (OCS) Cognizant Engineer

- Engineered and deployed AWS infrastructure within three months, enhancing secure data transmission for 27 teams by leveraging S3, OpenSearch, and DynamoDB.
- Collaborated with cross-functional DevOps teams to define and document IaC practices, significantly enhancing team knowledge and ensuring consistent deployment standards.
- Conducted training sessions on operations topics, focusing on business logic, fostering team knowledge and answering questions on system administration and cloud operations.
- Led the end-to-end development of critical new features, ensuring delivery within each three-month delivery cycle, which significantly improved the platform's reliability.
- Provided on-call support in response to triage, enhancing team responsiveness to issues and ensuring timely resolution, which contributed to a more reliable user experience.

Darkroom Visualization Developer

- Designed visualization stack leveraging commercial off-the-shelf (COTS) software and frameworks, including Postgres, TimescaleDB, Grafana, Telegraf, and InfluxDB.
- Developed data visualization user interface that facilitated better communication of complex data, enhancing stakeholder understanding and collaboration.
- Engineered a microservice architecture within three months, streamlining deployment processes for dev, test, and production environments using Docker and Terraform.

Distributed Object Manager Operational Lead

- Spearheaded the implementation of a new Ground Data System (GDS) paradigm, overhauling the command product uplink pipeline in use by 12 active flight missions.

SKILLS

Programming Languages & Development

- C++
- Debugging
- HTML/CSS
- Java
- JavaScript
- Linux/Unix
- Python
- Ruby
- TypeScript

Version Control & Issue Tracking

- Confluence
- Documentation
- Git
- GitHub
- GitLab
- JIRA
- Subversion

DevOps & Containerization

- Docker
- Jenkins
- Puppet
- Serverless
- Terraform

- Led a team of five high-performing engineers to deliver mission-critical support for 12 flight mission information systems, ensuring operational excellence and reliability.

Mars Sample Return Lander (SRL) Flight Software Developer
- Delivered python autocode modules to write C flight software for the SRL role enabling telemetry uplink and downlink from the surface of Mars.

Mars 2020 Entry Decent & Landing Visualization Developer
- Integrated orbiter telemetry, empowering the world to witness the real-time location of the MRO and MAVEN orbiters on landing night.

Software Engineering Intern
- Implemented tooling for an OpenMP based multi-threaded optimization algorithm for multibody state propagation.

NASA Johnson Space Center   **Houston, TX | 08/2018 - 01/2019**

NASA center specializing in human space flight and mission control

Software Engineering Intern
- Developed Python and MATLAB libraries that automated data cleaning and verification processes, enhancing data processing efficiency.

Barg Coffin Lewis & Trapp, LLP   **San Francisco, CA | 01/2011 - 09/2012**

A premier California environmental law boutique

Case Clerk
- Executed legal administrative tasks as a case clerk, streamlining case management processes.

PROJECTS

Docker Home Media Server

Developed and administered a home server for friends and family running 13 containerized microservices to deliver a local and private alternative to commercial cloud application providers. Secured with LetsEncrypt TLS/SSL certificates behind a reverse proxy and GlueTUN VPN.

EDUCATION

Master of Science in Computer Science

DePaul University   Chicago, IL | 01/2016 - 01/2018

Master of Arts in Philosophy

The New School for Social Research   New York, NY | 01/2012 - 01/2015

Bachelor of Arts in Philosophy & Political Science

DePaul University   Chicago, IL | 01/2007 - 01/2011

Backend & Cloud Development
- AWS
- ElasticSearch
- MongoDB
- PostgreSQL
- RDS
- Redis
- REST APIs
- TimescaleDB
- Web Servers

Frontend & Data Visualization
- Data Science
- Grafana
- Machine learning

AWARDS

Team Award
09/2022
NASA JPL

Team Award
06/2022
NASA JPL

Voyager Award
04/2022
NASA JPL

Team Award
09/2021
NASA JPL

CERTIFICATIONS

AWS Advanceduser
01/2021
NASA JPL

Open Water Diver
08/2021
PADI