

# Alexander Lukens

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## EXPERIENCE

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### Software Engineer

February 2022 - Present

#### *Intelligent Artifacts*

*New York, NY*

- Directed the successful implementation of 5 application areas for a development platform utilizing Flask and Vue 3
- Achieved 99.9% uptime for Python application by implementing MongoDB replica sets and Digitalocean deployment
- Achieve > 90% test coverage on 4 core projects using Pytest and Coverage.py. Additional testing on projects reduced recurrent code issues by 95%
- Ensure 100% code consistency across development team by implementing pre-commit and Ruff formatting
- Automate 5 deployments via Bitbucket Pipelines for documentation and Docker images. Author documentation using Sphinx and Google docstring syntax

### Web Developer

April 2021 – December 2021

#### *Idea Shop Prototyping Lab*

*Chicago, IL*

- Designed student dashboard and safety training interface across 5+ training areas using Flask and Jinja2
- Visualized real-time status and capacity metrics for 2 separate shop areas
- Provisioned 15 edge devices to enable remote access and authentication for shop equipment. Integrated with SQLAlchemy to serve status information from IoT devices

### Prototyping Lab Assistant

October 2019 – November 2021

#### *Illinois Institute of Technology*

*Chicago, IL*

- Ensured safety of 10+ students while operating shop equipment
- Coordinate 10+ 3D printer operations per day, combining orders into batches to increase throughput
- Assisted > 10 students/day with electronics prototyping and code debugging

## PROJECTS

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### Eventit-py | *Python, Flask, MongoDB, FastAPI, Pytest*

December 2023 - Present

- Implement Python library with core event tracking features. Design extensions for FastAPI, Flask, and OTel. Maintain test coverage over 90% for robustness
- Support 2 data backends for long-term storage. Design for future expansion using OOP principles
- Streamline testing on 3 supported Python versions via Github Actions. Utilize Pre-commit, Ruff, and Pytest to enhance code quality

### CaptainsLog | *Python, Docker, GTK4, AppImage*

June 2023 - August 2023

- Developed GUI using GTK4 for the Docker daemon to view and export container logs
- Leveraged GTK4 widgets and Docker Python API to provide search functionality to container logs
- Visualized container status in UI by querying Docker daemon. Tested on 3 containers simultaneously
- Improved responsiveness of application by delegating log updating to background processes
- Packaged app using AppImage format for Linux distribution

## EDUCATION

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### Illinois Institute of Technology

August 2018 – December 2021

*Bachelor of Science in Electrical Engineering - Summa Cum Laude*

*Chicago, IL*

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, ReST (Sphinx), Bash, HTML/CSS

**Frameworks:** Flask, Pytest, Celery, Socket.IO, gRPC, OpenMP

**Developer Tools:** Git, Docker, Bitbucket Pipelines, Vim, Digitalocean, VS Code, CMake

**Libraries:** PyMongo, NumPy, Requests, Pandas, Boost

## PERSONAL

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- Proud two time finisher of the Chicago Marathon
- Enthusiastic about Linux and open-source projects
- Enjoy reading about new libraries and expanding my Python & DevOps knowledge
- Involved Member of New York Road Runners and IEEE Computer Society