

# Alex Kautz

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## Skills

**Expert:** Python, ETL Pipelines, AWS, Azure, Apache Airflow, Azure Pipelines, Glue, AppConfig, S3, Azure Blob Storage

**Proficient:** Java, C#, Backend RESTful services, OpenSearch, Docker

**Familiar:** AzureML, PyTorch, PyTorch Lightning, OAuth2, Terraform

## Experience

### Mobi - Senior Software Engineer

*Mobi is a startup providing business-to-business travel planning solutions.*

Somerville, MA

February 2023 to June 2025

**Data Pipeline Team.** Built Python Airflow pipelines orchestrating Glue jobs to extract, transform, and load a database of every location on Earth.

- Built a pipeline to combine location sources in specific configurations.
- Led the addition of an “unrestricted configuration”, using custom Python Glue logic, AppConfig, and Airflow DAG properties to create a database without legal restrictions.
- Maintained existing pipelines, working additionally with Terraform and S3 to fix bugs and make improvements to prevent extended downtime.

**Backend Team.** Lead developer for the customer-facing Java-based RESTful service that provided constraint-satisfied vacation plans.

- Led the design, implementation, and delegation of inline API documentation, working with Springdoc to ensure customers always had up-to-date information on how to call Mobi’s planning service.
- Led the design and implementation of dynamic customer settings. Worked with Spring Boot, Redis and S3 to provide customers with a customized configuration while interacting with the planning service (such as which airline to use).
- Monitored for errors to achieve service stability.
- Performed a deep review of the Java dependency tree using both OWASP and Snyk dependency scanning. Upgraded vulnerable packages while determining the value of Snyk to improve security while balancing ease of use.

## Microsoft: Windows Defender Cloud - Software Engineer

*The Windows Defender Cloud team provides a service where customers can upload files to be analyzed in the cloud for maliciousness.*

Redmond, WA

January 2021 to February 2023

**Machine Learning DevOps Team.** Enabled researchers to produce machine learning models by building a Python library that integrated with Azure Pipelines. Developed a workflow that produced a large collection of reproducible versioned model artifacts.

- Added functions supporting PyTorch Lightning and sending logs to Azure Application Insights.
- Helped onboard researchers to the tool.

**Backend Team.** Maintained a variety of C#-based services. Helped ensure services stayed up to date and compliant.

- Brought a service from .NET Framework 4.6 to .NET 6.0 to maintain service compliance.

## 1010Data: Software Engineering Intern

- Developed web backend in Python - Flask to manage Apache Airflow instances. Gained experience with REST APIs and database management using SQLAlchemy.
- Engaged with the principles of Agile software development.

## Education

### University of Rochester - BA Computer Science

Rochester, NY

- Bachelor of Arts in Computer Science
- Minor in Mathematics
- GPA: 3.9
- Coursework included Artificial Intelligence, Human-Computer Interaction, Theory of Computing, Introduction to 3-D Modeling, Honors Calculus, Honors Linear Algebra
- Summer NSF Research Experience for Undergraduates at University of Minnesota: created user interface for 3D rendering tool for cultural artifacts