Karen Law

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Python developer with extensive experience building scalable backend systems, internal platforms, and automation tools. Proven track record delivering high-quality enterprise solutions at Apple, Airbus, and Western Digital. Strong expertise in Python, APIs, data processing, and CI/CD, with a reputation for improving code quality, performance, and developer productivity through thoughtful design and collaboration.

KEY SKILLS

- **AI/ML**: Rasa, NumPy, SciPy, Pandas, Matplotlib, Scikit-learn, ChatGPT, Claude Code, Ollama
- **Backend Development**: RESTful APIs, Microservices, Object-Oriented Design/Programming, Distributed Systems
- **Python Development**: Flask, Flask-RESTX, FastAPI, SQLAlchemy, PySide, Qt
- **Programming Languages**: Python, Java, C/C++, JavaScript, SQL, Bash, YAML, JSON
- **Data**: PostgreSQL, MS SQL Server, MySQL, SQLite, GraphQL, Hasura
- **Cloud & DevOps**: Docker, Kubernetes, AWS, OpenShift, CI/CD (GitHub, GitLab), SonarQube, Agile/Scrum
- **Automation & Testing**: Test-Driven Development (TDD), Cypress, PyTest
- **Tools & Technologies**: Docker, Git, MATLAB, OpenAPI, Linux, Windows, Algorithms, Data Structures, Virtual Environments, VMware, NVMe, RAID

PROFESSIONAL EXPERIENCE

Apple Inc., Cupertino, CA
Software Developer (Feb 2025–Feb 2026)

- Developed a Python backend framework API layer for an internal MacOS GUI application, streamlining workflows and improving usability
- Implemented automated Python code generation from application input files, enabling non-programmers to quickly produce fully functional executable scripts.
- Built a command-line Python tool to automatically generate complex project timeline visualizations, eliminating manual graph creation and improving repeatability using OpenPyXL, Pandas, and Matplotlib.
- Converted MATLAB framework libraries to Python, achieving up to **10× performance improvements** while preserving functionality and improving code readability and maintainability.
- Developed a Python & Qt–based GUI workflow designer and executor with an optional CLI interface, used to demonstrate and validate end-to-end workflows with management and stakeholders.

The Collaborator Project
Co-contributor (on-going)

- Integrated an AI-powered chat assistant into a real-time desktop sharing and collaboration application, adding intelligent automation and contextual assistance.
- Implemented a Rasa chatbot to handle routine queries, reducing lead workload and improving participant experience.

- Integrated NGINX as an API gateway with HTTPS and API-key authentication.
- Deployed services on AWS ECS Fargate to ensure scalable, reliable production performance.

Airbus Innovation Center, Sunnyvale, CA
Software Engineer (Mar 2019–Mar 2024)

- Joined the ADAM project as the first Python engineer and established development standards that supported team growth and onboarding.
- Developed backend microservices in Python and Java, improving system scalability, reliability, and maintainability.
- Designed and implemented RESTful APIs integrated with PostgreSQL, GraphQL, Hasura, and Airbus Skywise.
- Built an automated data pipeline to ingest and process raw data gathered from internet, and supplying clean formatted data to downstream machine learning workflow.
- Manufactured realistic synthetic engineering datasets with accurate relational structure to support dev and staging environments, enabling safe testing and rapid prototyping without exposing production data.
- Migrated MATLAB-based tools to Python, reducing licensing costs and significantly improving processing performance.
- Improved code quality by **80%** through automated testing and CI/CD pipelines using GitLab and SonarQube.

SanDisk Corporation / Western Digital, Milpitas, CA
Technologist (Jul 2013–Mar 2019)

- Led backend development of Python-based tools for SSD validation, accelerating product maturity and release cycles.
- Built and maintained automated pipelines for large-scale data ingestion and processing.
- Designed and implemented a PXE boot system using a custom Ubuntu image to automate firmware testing.
- Developed NVMe feature tests in C/C++ to ensure firmware standard compliance.
- Managed FreeNAS servers, VMware vSphere hypervisors, and Linux/Windows virtual machines, ensuring a highly available infrastructure to support continuous SSD testing.

Previous Experience

Software engineering roles at Toshiba, Maxtor, and Quantum. Details available upon request.

EDUCATION

B.S., Computer Engineering, Santa Clara University, Santa Clara, CA