

Kevin Welty

Senior Software Engineer · AI & Agentic Systems

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Accomplished Senior Software Engineer with over 10 years of experience designing, developing, and deploying robust backend systems and data pipelines. Currently specializing in LLM-powered agentic workflows and intelligent automation — bridging deep infrastructure expertise with cutting-edge AI tooling to ship production-grade AI systems.

SKILLS

Languages: Python, Java, C#, Go, Ruby, Lua, SQL

AI & Agentic: Agentic Workflows, Anthropic Claude, Claude API, Large Language Models, RAG, Prompt Engineering

Frameworks & Tools: FastAPI, Django, Ray/Anyscale, SQLAlchemy, Alembic, Pydantic, Jinja, XSLT

Databases: PostgreSQL, MS SQL Server, Cassandra, MongoDB, MySQL, Elasticsearch, OpenSearch

Infrastructure & Cloud: AWS (S3, SQS, SNS), Google Cloud Platform, Linux, Docker, CI/CD

Protocols & Patterns: RESTful APIs, OAuth 2.0, JWT, Microservices, SNMP, Wireshark, Unit Testing, Release Management

EXPERIENCE

Lex Machina · Remote

October 2021 – Present

Senior Software Engineer II

- Maintain backend crawling infrastructure spanning multiple ETL pipelines that process millions of legal documents.
- Contributed to projects adding new state courts and millions of new documents to the product.
- Optimized the federal crawling backend, improving reliability and data freshness.
- Migrated several crawling systems to a new infrastructure stack with zero downtime.
- Designed database schemas with Alembic migrations and SQLAlchemy models.
- Engineered event-driven data ingestion pipelines on AWS S3, SQS, and SNS.
- Built high-performance RESTful APIs with FastAPI — Pydantic validation, dependency injection, and async processing.
- Developed secure API integrations using OAuth 2.0, JWT, and API keys for Google APIs and custom endpoints.
- Created proofs of concept for new solutions; active in the Python community (3 PyCons, including onsite in 2024).

Comtech — EF Data & Satellite Networks Technologies · Tempe, AZ

March 2016 – October 2021

Software Engineer I

September 2019 – October 2021

- Developed a Python client/server automated test application to validate the Heights Networking System.
- Transformed a beta Python application (SMT) into microservices: result collection, dynamic views, config saving, and a RESTful interface.
- Created a RESTful API framework on a Django web server serving test results, rack configs, and unit configurations.
- Served as lead engineer and developer/tester across multiple simultaneous projects with major architectural decisions.

Applications Software Engineer

May 2019 – September 2019

- Lead engineer for Skyline NetVue Network Management System, supporting networks for commercial and government clients.
- Worked directly with customers to troubleshoot field issues; debugged satellite networks at the packet level with Wireshark.
- Developed a DataMiner REST API test application enabling customers to beta test API calls.
- Initiated development of an in-house NMS to replace NetVue, leading a team of four.

Network Test Engineer I & II

September 2016 – May 2019

- Administered and developed the Java Test Automation Application (Test Harness) using SQL, Java, Python, and C++.
- Developed Wireshark dissectors in Lua for human-readable packet analysis.
- Built packets with Scapy in Python and tested their impact on satellite network systems.

Engineering Intern

March 2016 – September 2016

- Developed equipment drivers using REST, GPIB, SNMP, and Selenium.
- Built automation software and test procedures for satellite RF and network communications equipment.
- Developed a C# Telnet debugging application for customer field use.

EDUCATION & AWARDS

BS in Computer Information Systems

January 2016

Arizona State University — Tempe, AZ

Eagle Scout — highest rank in the Boy Scouts of America, earned by fewer than 4% of scouts.