Chun Lu

chun.lu.dev@gmail.com | https://www.linkedin.com/in/chun-lu/ | https://chunlu.github.io/ | 917-838-8738

Technical Skills

Programming Languages: Python, Java, Javascript, C#
Front-End: React, Bootstrap, CSS, HTML
Back-End: FastAPI, Django, Django Rest Framework, Flask
Databases: PostgreSQL, MongoDb, Redis
DevOps: Ansible, Docker, Podman, GitLab CI, GitHub Actions
Additional Tools: Git, AWS, REST, GraphQL, Poetry, YAML, Jinja, Node.js, SQL, Jira, OKTA

Experience

Software Engineer March 2025 – Current
M&C Saatchi World Services *New York, NY*

- Designed and deployed a geospatial analysis backend application using FastAPI, PostgreSQL, Redis, and AWS, enabling scalable and reliable data processing.
- Optimized database performance by implementing indexes and composite indexes, reducing query times and improving system responsiveness.
- Automated PowerPoint report generation by collaborating with cross-functional teams to identify requirements, consolidating common elements, and building a scalable reporting workflow.

Software Engineer July 2018 – February 2025
Naval Information Warfare Center Pacific (NIWC PAC) *San Diego, CA*

- Developed a Java-based mobile asset tracking application for inventory management and location services, streamlining the inventory process and improving overall operational efficiency.
- Designed and optimized database schema to capture devices and connections of the network infrastructure.
- Orchestrated automated provisioning of network infrastructure across multiple sites, including device configuration, connection establishment, and IP address management.
- Implemented unit tests leading to a reduction in manual testing time and an improvement in codebase maintainability.
- Developed and implemented a GitLab CI pipeline for automated build, test, and deployment. This pipeline streamlines the development workflow by automating tasks like testing and image builds, leading to improved efficiency.
- Migrated queries from REST to a single, optimized GraphQL request, simplifying data retrieval and codebase. This enhanced maintainability, promoting faster development cycles and improved code quality.
- Contributed to the development of a full-stack web application using React, Django Rest Framework, and Postgres. This application facilitates efficient 3D file hosting and management.
- Pioneered the development of interactive 3D PDFs for component visualization using custom LaTeX templates and embedded U3D models. This innovative approach leverages LaTeX's capabilities to generate dynamic 3D content within PDFs, enhancing usability and accessibility for users.
- Improved the existing system by adding a real-time data processing and visualization system using C# and XML to handle GPS satellite data. This feature eliminates the need for post-processing with external software resulting in faster analysis and testing.
- Developed a Python-based tool using the Pandas library to refine and validate raw sensor data logs. This tool automatically eliminates inconsistencies like outliers and missing values, and auto-generates relevant plots and graphs (e.g., histograms, time series) for analysis. This resulted in a significant reduction in data preparation time, enabling faster and more efficient data analysis.

Certifications and Clearances

AWS Certified Cloud Practitioner
Validation Number: 85534bca94154672addb7967254a3e78 *January 22, 2024 – January 22, 2027*

Secret Clearance
Active *July 2019 – July 2028*

Education

Stony Brook University Stony Brook, NY
Bachelor of Engineering, Computer Engineering *August 2014 – May 2018*