

# Hayk Tserunyan

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## TECHNICAL SKILLS

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**Languages:** Java, Python, JavaScript, HTML, CSS  
**Frontend:** React, Tailwind CSS, Bootstrap  
**Backend:** Spring Boot, Node.js, Express, Flask, FastAPI  
**Databases:** MongoDB, PostgreSQL, MySQL, TimescaleDB  
**DevOps/Tools:** Git, GitHub, Docker, Postman, CI/CD (GitHub Actions)  
**Data & Automation:** Pandas, NumPy, Matplotlib, Scikit-learn, Web Scraping

## EXPERIENCE

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**Backend Development Intern** Jan 2024 – Aug 2024  
*Cast & Crew* Burbank, CA

- Built and maintained backend features in Node.js/Express supporting digital payroll workflows in collaboration with a team of 6 engineers
- Optimized MongoDB indexing and query patterns, improving high-traffic API response times by 40%
- Participated in Agile sprints including standups, planning, and peer code reviews
- Implemented authentication, logging, and rate-limiting middleware to improve security and system reliability
- Maintained CI/CD pipelines using GitHub Actions enabling automated testing and zero-downtime deployments

**API Team Programmer** Mar 2023 – Jun 2023  
*Zotbins* Irvine, CA

- Collaborated with a team of 4 developers to design backend infrastructure and CI workflows
- Developed CI pipeline foundations, reducing manual testing effort by 30%
- Improved database throughput using TimescaleDB optimizations, achieving up to 5x faster inserts and 3x faster deletes
- Refactored backend components to reduce technical debt, lowering code complexity by approximately 20%

## PROJECTS

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**License Plate Validation System** | *Java, Spring Boot, Python, FastAPI, SQLite, OCR* [GitHub](#)

- Designed a full-stack parking enforcement system simulating real municipal workflows and validating thousands of license plate checks
- Implemented OCR-based image processing to extract license plates across varied lighting conditions
- Applied confidence-based decision logic to reduce false-positive enforcement outcomes
- Logged enforcement actions with timestamped audit trails to support traceability and compliance
- Built independent Spring Boot and FastAPI services following clean separation-of-concerns principles

**Encrypted Password Vault API** | *Python, FastAPI, Argon2, JWT, SQLite* [GitHub](#)

- Built a secure credential vault API implementing modern encryption and authentication best practices
- Used Argon2 hashing and symmetric encryption to protect credentials at rest and in transit
- Secured API routes with JWT-based authentication and strict authorization boundaries
- Designed modular FastAPI architecture emphasizing maintainability and security isolation

**Wikipedia Topic Explorer** | *Python, Web Scraping, Crawling, CLI* [GitHub](#)

- Built a Python crawler exploring Wikipedia link graphs across hundreds of articles per execution
- Implemented configurable crawl depth, page limits, and link filtering rules
- Filtered non-content pages to ensure clean and relevant traversal
- Exported structured crawl results to CSV for analysis and visualization

## EDUCATION

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**California State University, Northridge** Northridge, CA  
*Bachelors in Computer Science* Aug. 2021 - May 2025