

# Max Kempler

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## EDUCATION

### Marist University

B.S. in Computer Science

Poughkeepsie, NY

May 2025

- **Concentration:** Software Development
- **GPA:** 3.5/4.00, *Dean's List*
- **Minors:** Information Systems, Information Technology
- **Relevant Coursework:** Data Structures & Algorithms, Applied AI, Database Management, Discrete Mathematics

## EXPERIENCE

### Software Engineer Intern

Center for Internet Security

Remote

December 2023 – Present

- Migrated legacy administrative system tests from JUnit to the Spock framework, improving test consistency, maintainability, and integration with the main application pipeline.
- Planned and implemented a comprehensive logging strategy for an internal administrative system using Spring Boot and Logback, improving system monitoring, log management, and establishing standardized logging levels.
- Contributed to a 30% reduction in production defects as of July 2024, surpassing the initial 5% goal through code quality improvements and rigorous testing protocols.

### Student DevOps Engineer

Marist University

Poughkeepsie, New York

January 2023 – December 2023

- Optimized IT asset management by maintaining an open-source asset management system, enhancing operational efficiency and resource tracking.
- Developed and implemented an automated monitoring solution using Python in a Linux environment, enabling real-time asset tracking and response, and displayed results on a monitoring dashboard for operational transparency.
- Collaborated closely with stakeholders to identify requirements and drive system enhancements, integrating innovative features that improved overall functionality and data management.

## PROJECTS

### AI Chatbot

- Developed a neural-network chatbot using Python, Keras, and NLTK to classify user intents and generate contextually appropriate responses.
- Implemented comprehensive NLP preprocessing pipeline including tokenization, stemming, and pattern matching.
- Built responsive Tkinter GUI with conversation history and real-time interaction capabilities.

### AI Driven Finance Tracker

- Designed and built a full-stack financial tracking web application with OpenAI API integration, featuring an automated insights dashboard for personalized spending analysis.
- Integrated a CAG-based AI pipeline (OpenAI GPT-4o-mini) to generate personalized spending insights and budget recommendations, storing insights in PostgreSQL for historical reference.
- Developed RESTful API backend with PostgreSQL database for transaction storage and insight persistence.

### Java Compiler

- Developed a fully functional compiler from scratch in Java, implementing a complete compilation pipeline from source code to executable output.
- Built core compiler phases including lexical analyzer with tokenization, recursive descent parser with AST generation, semantic analyzer with type checking, and code generator producing assembly/bytecode.
- Designed and executed a comprehensive test suite covering edge cases, error handling, and syntax validation.

## SKILLS

- **Programming Languages:** Python, Java, JavaScript, PHP
- **Databases:** PostgreSQL, MySQL, MariaDB, MongoDB
- **Frameworks:** Spring Boot, Node.js, React.js, Vue.js, Keras, NLTK, Tailwind CSS
- **DevOps & Tools:** Docker, AWS, Linux, Git, Jira, Logback, Spock, Agile/Scrum, HTML5, CSS3