

Elena Parapounsky

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Education

Oregon State University

Bachelor's, Computer Science

06/2025

GPA: 3.98

- » Computer Architecture & Assembly Language, Data Structures & Algorithms, Databases, Operating Systems, Parallel Programming, Software Engineering, Usability Engineering, Web Development

Professional Experience

Lockheed Martin

Associate Systems Engineer

03/2026 - Present

Mount Laurel, NJ, USA

- » Analyzed test data and system logs to investigate Problem Reports, validate system behavior against requirements, and recommend software changes or requirements updates.
- » Used IBM Jazz, GitLab, IBM ClearQuest, and proprietary analysis tools to support issue triage, data analysis, and code tracing during L3 testing and verification activities.
- » Developed models for complex systems using Cameo Systems Modeler, enhancing design accuracy, project efficiency, and alignment with requirements.

New Balance

Sales Associate

07/2019 - 08/2020

Tualatin, OR, USA

- » Built customer loyalty through effective problem-solving in a high-volume retail environment, resolving issues swiftly and maintaining high customer satisfaction.
- » Increased sales through improved customer engagement by promoting featured products and using strong communication skills to turn interactions into purchases.

Technical Projects

Crawly - [Link to project](#)

- » Designed and developed a full-stack Java-based web crawler and scraper featuring a Swing GUI that lets users download and browse complete websites offline.
- » Engineered a file management system that preserves original website directory structures by mapping URLs to filesystem directories and rewriting image paths automatically.
- » Ensured reliable automated testing by implementing a JUnit testing framework to validate crawler output, using test-driven development principles to improve code quality and stability.

Infinite Story Generator - [Link to project](#)

- » Designed and developed an end-to-end full-stack web application as part of an agile team following SDLC best practices.
- » Built a responsive user interface using a React frontend and Node/Express backend, optimizing data interchange through REST APIs.
- » Created real-time AI-driven text and image generation features by integrating the OpenAI GPT and DALL·E APIs.
- » Used prompt engineering techniques to optimize AI model outputs, resulting in increased content generation quality.
- » Achieved efficient deployment on Railway by implementing a GitHub-based CI/CD pipeline and troubleshooting deployment issues.

Pokemon Database - [Link to project](#)

- » Developed a full-stack database management system using PHP, MySQL, HTML/CSS, and JavaScript with thorough CRUD operations for multiple entity types and complex relationship tracking.
- » Designed a normalized MySQL database schema with 8 interconnected tables, including junction tables for many-to-many relationships, and optimized JOIN queries for data retrieval and display.
- » Implemented a secure backend with PHP and PDO, using parameterized queries to prevent SQL injection and streamline server-side form processing.
- » Deployed application with live hosting and integrated phpMyAdmin for database administration.

Small Shell - [Link to project](#)

- » Implemented a custom Unix shell in C for Linux (Ubuntu) with support for built-in commands, external commands, I/O redirection, and background process management.
- » Increased command execution reliability using systems programming principles like process control, file descriptors, and signal registration.
- » Improved code maintainability by automating builds with a Bash script and organizing modular source files with version control.

Atomic Chess - [Link to project](#)

- » Developed an interactive Python desktop chess app with explosion mechanics, move validation, real-time game state management, and a responsive Tkinter interface featuring dynamic square highlighting, chess pieces, and modal dialog feedback.
- » Improved code quality and reusability by building a modular codebase that separates game logic from the GUI using MVC design patterns.

OTP Encryption System - [Link to project](#)

- » Implemented a complete One-Time Pad encryption system in C featuring key generation, file processing, input validation, and client-server architecture.
- » Created multi-process TCP servers using POSIX system calls and forking to handle concurrent encryption/decryption requests.

Skills

- » **Languages:** Java, Python, JavaScript, C/C++, HTML/CSS, SQL, Bash, PHP, x86 Assembly
- » **Frameworks:** React, Node, Express, Mongoose, Vite, Jest, JUnit, Swing
- » **Tools:** Git, MySQL, MongoDB, VS Code, Visual Studio, IntelliJ, PyCharm, Maven, CMake, Figma, Jira