

# Clara Watson

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## Education

**BS in Computer Science, Minor in Mathematics**

Oregon State University

## Professional Summary

I am an innovator at heart. I thrive on solving complex problems and getting lost in code. In my current role, I've honed my skills in developing scalable solutions and collaborating across teams. I am passionate about building innovative solutions and exploring creative expression through technology.

## Experience

### Software Engineer

*Opt8 Automations*

*September 2023 – Present*

- Designed and executed **unit/integration tests** to verify system functionality and prevent regressions across deployments.
- Created **Selenium-based automation tools** to simulate user behavior and uncover UI/UX or functionality issues.
- Maintained **Git-based workflows and CI/CD pipelines** to support continuous testing and rapid deployment cycles.
- Automated workflows using **Make, Zapier, n8n, and Python**, minimizing manual errors and improving operational efficiency.
- Collaborated across teams** to deliver and maintain end-to-end software solutions, **troubleshooting issues post-deployment**.

### Software Engineer Intern

*Macquarie Group*

*May 2023 – August 2023*

- Built **automation workflows** for incident escalation, ensuring high-priority security events were processed quickly and accurately.
- Automated data gathering from Splunk and Proofpoint using custom **API integrations**, enhancing incident response visibility.
- Supported CTIR team as **first-response engineer** for system anomalies and security alerts, triaging incidents for escalation.
- Improved real-time visibility by **optimizing data pipelines** to extract key metadata fields for monitoring system health metrics.
- Utilized **JIRA and Confluence** for project tracking and detailed documentation in an **Agile Scrum environment**.

### Mathnasium

*Junior Developer*

*2020 – 2023*

- Developed **Python-based educational games** to reinforce student learning through interactive tools.
- Automated **data entry workflows** with **Google Apps Script**, improving analytics and reporting.
- Maintained and debugged **internal applications**, ensuring **data integrity and system stability**.
- Wrote and maintained **SOPs (Standard Operating Procedures)** for instructional workflows.

## Capstone Research

*Neural Networks: Foundations, Applications, and Ethical Considerations*

- Conducted **self-directed research** & authored an **18-page report** on **Neural Networks**, covering **FNNs, CNNs, and RNNs**.
- Analyzed **backpropagation, optimization techniques, and applications** in **computer vision, NLP, and finance**.
- Explored **ethical concerns in AI**, such as **bias, transparency, and data privacy**.

## Projects

### SheetSmart - HVAC Management System

**C#, ASP.NET Core, SQL Server, Entity Framework Core**

<https://github.com/watson-clara/SheetSmart>

- Developed a **comprehensive project management system** for sheet metal manufacturing and HVAC businesses.
- Built a **job tracking system** with state management, **role-based security**, **Entity Framework Core**, and **SQL Server**.

### Sorty - File Comparison Tool

**PHP, CI/CD, PHPUnit, Docker, JavaScript**

<https://github.com/watson-clara/Sorty>

- Developed a high-performance PHP application for comparing large text files with **O(n) time complexity**.
- Implemented **unit testing** with **PHPUnit**, ensuring over **90% code coverage** and reliability.

### Inclusive Form Builder

**Ruby on Rails, PostgreSQL, Bootstrap, MVC Design**

<https://github.com/watson-clara/Inclusive-Form-Builder>

- Built **responsive UI components** using **Bootstrap 5** for an intuitive form creation experience.
- Applied **MVC design patterns** to maintain clean architecture and separation of concerns.

### E-Commerce Tax Calculator

**PostgreSQL, React, Node.js, Express, Docker**

<https://github.com/watson-clara/E-Commerce-Tax-Calculator>

- Designed a **PostgreSQL database** with optimized schema for tax jurisdictions, rates, rules, and transaction history.
- Implemented a **Node.js/Express backend** with layered architecture for tax calculation and data persistence.

### Astrology Microservice API

**Python, FastAPI, Docker, REST API**

<https://github.com/watson-clara/Astrology-Microservice-API>

- Developed a **FastAPI microservice** to provide real-time astrological insights and followed **Test-Driven Development (TDD)**.

### JSONPrettifier

**Go, React/TypeScript, GraphQL, CI/CD**

<https://github.com/watson-clara/JSONPrettifier>

## Skills

- Python, Go, C#, SQL, CSS, TypeScript/JavaScript, Java, Ruby, React, Next.js, Tailwind, Figma, Bootstrap, PostgreSQL, GraphQL, Flask, SQLAlchemy, Agile, Docker, CI/CD, Git, Make, Zapier, AI-powered Automation, n8n, Swimlane, SEIM, SOC 2, ISO 27001, IAM, IDS/IPS, Linux, Unix, Embedded Systems, Debugging, AI Ethics & Responsible AI Development