

## Olivia Jardine

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## EDUCATION

### University of Washington

Seattle, WA

B.S. in Discrete Math and Algorithms, Minor in Business

Expected: June 2027

- Courses: Data Structures & Algorithms (Python & Java), Algorithmic Engineering (C++), Discrete Math, Statistics
- Organizations: I2 Neuroscience AI (member)

## EXPERIENCE

### Founder & Software Developer

Apr. 2025 – Present

Oraflamme – Collaboration with King County Information Technology (KCIT)

Seattle, WA

- Design and develop a secure extranet web application for the King County Hazardous Waste Management Program, supporting 90k+ residents and 1k+ businesses annually with regulatory compliance needs.
- Build comprehensive system architecture using C#, ASP.NET Core MVC, Web API, and SQL Server with Forms Authentication implementing role-based access control and secure data management protocols.
- Integrate symmetric key encryption algorithms for secure handling and storage of sensitive environmental data, business information, and personally identifiable information throughout the application lifecycle.
- Collaborate extensively with KCIT employees to ensure full compliance with public-sector security standards, implementing data retention policies, access control mechanisms, and legal protocols for government data handling.

## PERSONAL PROJECTS

### Smart Shoplifter Detection System | FastAPI, YOLOv8, OpenCV, PostgreSQL, Docker

[Link](#)

- Built real-time computer vision surveillance system processing 30 FPS video (~33ms/frame) using Haar cascades, HOG detection, and scikit-learn ensemble models (Random Forest + Decision Tree) for behavior analysis and confidence-based scoring.
- Developed surveillance dashboard with live video streaming, people counting, and alert management using FastAPI backend with automatic OpenAPI documentation and dark theme UI optimized for 4GB+ RAM systems.
- Engineered detection algorithms with 20% IoU threshold overlap detection and 50% containment checking to prevent duplicate counting, using aspect ratio filtering and contrast analysis validation to reduce false positives while maintaining 640x480 resolution at 85% JPEG compression quality.

### Node Flow | TypeScript, Tailwind CSS, React, Vercel

[Link](#)

- Built an interactive web tool to visualize 20+ core data structures and algorithms, supporting 120+ students and self-learners in grasping foundational computer science concepts through real-time, animated visualizations.
- Achieved sub-0.7s load times using Vite, lazy loading, and performance optimization techniques.

## TECHNICAL SKILLS

**Languages:** Python, Java, C#, C++, TypeScript, JavaScript, HTML/CSS

**Frameworks:** .NET, Node.js, React, Tailwind CSS

**Developer Tools:** Azure, SQL Server, PostgreSQL, Docker, Git, Vite, VS Code, PyCharm, Tableau

**Libraries:** Pandas, NumPy, Matplotlib, Scikit-learn

## ADDITIONAL EXPERIENCE

### Business Owner | 9-Lives Thrift

May 2024 – June 2025

- Managed a 5.0-star vintage e-commerce shop, sourcing 150+ unique items monthly and developing automated Tableau dashboards and tools that boosted social engagement by 60% and improved inventory accuracy.
- Used sales data to identify top-performing categories and focus sourcing efforts

### Business Owner | Nexora Creations

Jul. 2020 – Sept. 2022

- Launched and managed a jewelry and crafts business, maintaining a 5.0-star rating and fulfilling 300+ orders; utilized Excel for inventory management, sales tracking, and financial forecasting, leveraging data insights to drive 60% YoY growth and increase monthly web traffic by 32%.