

# Thao Walton

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## SUMMARY

Graduate student specializing in Computer Science, focusing on machine learning and deep learning technologies. Experienced in software design using Python, with practical exposure to 3D computer vision. Proven track record of collaborating effectively with teams to develop innovative technologies that optimize autonomous vehicle perception systems. Created advanced detection models for emergency vehicles by leveraging multimodal deep learning techniques. Industry engagement through academic presentations showcases a commitment to real-world applications of research findings, promoting improved safety in transportation.

## EDUCATION

### Master's Degree in Computer Science

University of Washington    GPA: 3.9

2026

Seattle, WA

*Coursework: Machine Learning, Deep Learning, Data Structures, Algorithms*

## TECHNICAL SKILLS

- **Programming Languages:** Python, C++, Java
- **Frameworks:** TensorFlow, Keras, Pytorch
- **Computer Vision Software:** OpenCV, MATLAB, Scikit-learn
- **Development Tools:** Jupyter Notebook, Git, VS Code
- **Cloud Platforms:** AWS, GCP, Azure
- **Data Processing Tools:** NumPy, Pandas, SciPy
- **Data Visualization Tools:** Matplotlib, Seaborn, Tableau
- **Deep Learning Modules:** Fastai, TORCH, Neurons
- **Experimental Methods:** A/B Testing, Exploratory Data Analysis, Model Validation
- **Documentation Standards:** MDMLaTeX, GitHub Pages, Markdown

## SKILLS

- Python
- TensorFlow
- 3D Computer Vision
- Machine Learning
- Deep Learning
- Data Analysis
- Object Detection
- Simulation Development
- Image Processing
- Research Methodologies
- Statistical Analysis
- Algorithm Optimization
- Cross-Functional Collaboration
- Project Management
- Performance Evaluation
- Model Training

## EXPERIENCE

### Deep Learning Researcher

University Project

January 2025 - Present

Seattle, WA

Leveraged advanced methodologies to conduct extensive research within multimodal deep learning frameworks specializing in autonomous vehicle technology. Actively contributed to enhancements in the development of emergency vehicle detection systems.

- Conducted comprehensive research analyzing multi-dimensional datasets to drive effective model outcomes.
- Collaborated with cross-functional teams to construct a sophisticated simulation pipeline, yielding enhanced accuracy.
- Utilized Python and TensorFlow to create processes responsible for evaluating camera-image data streams.
- Refined algorithm output through rigorous benchmarking, leading to statistically significant improvements.
- Presented research insights at conferences, broadening community knowledge in autonomous systems operations.
- Guided junior researchers in mastering essential machine learning principles and data handling techniques.

### Machine Learning Developer

Capstone Project

September 2024 - December 2024

Seattle, WA

Focused on developing an object detection system to empower autonomous systems with heightened operational efficacy. Collaboratively built a testing framework for validation purposes, ensuring reliability.

- Engineered a novel object detection mechanism utilizing state-of-the-art deep-learning approaches tailored for automation.
- Teamed up with peers to formulate a structured testing approach, guaranteeing optimal model performance.
- Applied advanced data augmentation techniques during model training, bolstering resilience against variations.
- Demonstrated final project outcomes to faculty and industry experts, earning acclaim for innovation and thorough execution.
- Executed comprehensive literature analysis to align project initiatives with emerging trends.

- Participated actively in peer reviews, fostering collective growth through constructive feedback.

## Research Assistant

June 2023 - August 2024

Academic Research

Seattle, WA

Engaged in innovative research dedicated to advancing 3D computer vision methods for robotic application improvements. Aimed at pioneering algorithmic functions and publishing findings to elevate scholarly dialogue.

- Contributed notably to interdisciplinary efforts targeting 3D image processing for robotic interaction refinements.
- Employed Python with OpenCV for graphical data evaluations, driving strength in experimental outcomes.
- Actualized collaborative publication efforts resulting in successful contributions to high-impact journals relevant to computer vision over concise timelines.
- Orchestrated experiments validating algorithm effectiveness versus established benchmarks, guiding forthcoming studies.
- Facilitated initiative workshops designed to disseminate knowledge among fellow research bodies.
- Continued personal development through active participation in relevant seminars, enhancing expertise.

## LEADERSHIP & AWARDS

- Dean's List, University of Washington, 2024
- Best Paper Award, Student Conference on Machine Learning, 2025

## CERTIFICATIONS

- Machine Learning Specialization 📅 2025
- Deep Learning Certification 📅 2025

## PROFESSIONAL AFFILIATIONS

- Member, Computer Science Club, 2023 – Present
- Volunteer Mentor, STEM Outreach Program, 2024 – Present

## LANGUAGES

- English (Native)
- Spanish (Intermediate)

## ADDITIONAL INFORMATION

**Work Status** : Authorized to work in United States. No sponsorship required.

## REFERENCES

AVAILABLE ON REQUEST