

Amanda Shum

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PROFESSIONAL SUMMARY

Aspiring Machine Learning Engineer with hands-on experience in **Reinforcement Learning, Computer Vision, and workflow automation**. Developed **CNN classifiers in TensorFlow and PyTorch**, and applied **data-driven strategies** to optimize business operations. **Led automation initiatives** that saw **25% growth in property rental bookings** and **75% workload reduction** across **10,000+ inquiries** through **Google Apps Script**. Proficient in **Python, Deep Learning, Applied AI, and ML Engineering**, with a focus on delivering practical, real-world solutions.

EDUCATION

Simon Fraser University

Master of Professional Computer Science (Visual Computing)

Burnaby, BC

Expected Graduation Date: June 2027

Queen's University

Bachelor of Computing (Honours), Artificial Intelligence Specialization

Kingston, ON

Graduation Date: June 2025

WORK EXPERIENCE

Kingston Student Housing Co-operative

Vice President

Kingston, ON

2021-2025

- Served as Managing Director overseeing daily operations, HR, facilities, and member services for 21 residential properties, ensuring compliance with safety and regulatory standards.
- Provided strategic leadership and stakeholder management to the Board of Directors, overseeing budgeting, policy implementation, organizational planning, and revenue generating initiatives.
- Led organizational projects including software transitions, and process improvements to improve quality of customer service and “co-op culture”.
- Increased property rental booking reservations by 25% by analyzing customer demographics, optimizing seasonal marketing and room allocation strategies.
- Automated workflows with Google Workspace and Google Apps Script, reducing administrative workload by 75%, improving data processing and response time within 24 hours for 10,000+ inquiries.

Queen's University

Teaching Assistant

Kingston, ON

Jan 2023-Apr 2025

- Supported courses including Database Management Systems, Computer Architecture, and Elements of Computer Science.
- Guided students in SQL queries, relational database design, Python programming fundamentals, and problem-solving techniques.
- Provided academic support through one-on-one assistance, clarified course concepts for undergraduate students, and facilitated discussions in the course forum.
- Assisted professors with grading assignments, managed course materials, and delivered tutorials.

Queen's University

Information Technology Assistant

Kingston, ON

2024

- Designed and implemented SharePoint and Microsoft Teams sites by auditing legacy content, meeting organizational requirements.
- Assisted with the migration of existing content to new platforms, ensuring completeness, functionality, user accessibility in the new environment.
- Collaborated with stakeholders to ensure content retention, optimize navigation, and improve knowledge-sharing workflows.

PROJECTS

Gridworld Coverage

Jan-Apr 2025

- Built and trained RL agent using *Stable Baselines3* (*DQN*, *A2C*, *PyTorch*) in custom Gridworld; experimented with reward function design and observation space configurations to optimize area coverage; achieved **85% coverage success**.

Fruit Ripeness Detection

Sept-Dec 2024

- Built two-stage deep-learning model using *TensorFlow*, *NumPy*, *Python*, and *Convolutional Neural Network architecture* to classify and predict the ripeness of various fruit types. The model achieves a **96% success rate** of identifying fruit classes by training a primary CNN model that identifies the fruit and then trains specialized sub-CNN models, where each sub-model is responsible for detecting the ripeness of each fruit class.

The Treasure Hunter

Feb. 2024

- Used *Planning Domain Definition Language (PDDL)* to design a model solution that ‘plans a clear path to treasure’ using facts and constraints outlined in a domain file.

The Pentagonam

Jan-Apr 2023

- Designed a point and click game using in *Unity* and *C#*; created original assets and audio from *GarageBand*, with a focus on UI/UX.

SKILLS

Programming Languages: Python, SQL

Frameworks/Libraries: TensorFlow, PyTorch, NumPy, Unity, Stable Baselines3

Tools & Platforms: Microsoft Office, Google Workspace, Google Apps Script, SharePoint, Microsoft Teams, Canva

Core Competencies: Computer Vision, Image Processing, Machine Learning, Reinforcement Learning, Deep Learning (Convolutional Neural Networks, Generative AI), Autonomous Driving, Stakeholder Management