

# Gregory Salmon

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## Education

### University College London

*Master of Science, Artificial Intelligence for Sustainable Development*

Dissertation: Bayesian Uncertainty Models for Occluded Landmine Detection

London, UK

September 2024 - September 2025

### Loyola Marymount University

*Bachelors of Science, Information Systems and Business Analytics*

*Minor, Computer Science*

GPA: 3.88, Dean's List 2020-2024

Los Angeles, CA

August 2020 - May 2024

## Projects

### Activity and Fall Detection Using LSTM Networks from Coordinate Data

- Engineered an end-to-end machine learning pipeline for real-time activity recognition
- Designed experiments to test and improve model performance including performance analysis, hyperparameter tuning, and K-folds cross validation
- Achieved 87% test accuracy and 0.89 F-score with LSTM model, outperforming random forest classifier (78% accuracy, 0.76 F-score)

### Bayesian Uncertainty Models for Occluded Landmine Detection - Literature Review

- Conducted systematic review of 1,269 articles identifying key intersections between machine vision, Bayesian uncertainty estimation, and landmine detection techniques
- Analyzed critical factors affecting detection performance including vegetation occlusion thresholds, model architecture trade-offs, and uncertainty quantification methods
- Established comprehensive foundation for dissertation research on implementing Bayesian uncertainty modeling for humanitarian demining operations

### RL Racer - Autonomous Driver using Reinforcement Learning in Unity

- Developed a Unity-based autonomous vehicle simulation that leverages reinforcement learning to train a car to navigate race tracks
- Implemented a reward system with goal checkpoints and collision penalties, using ML-Agents to enable agents to learn optimal racing trajectories
- Created a physics-based car controller with realistic drift, acceleration, and steering mechanics allowing the AI agent to master complex racing behaviors

### Sustainability Review of Reinforcement Learning Models Predicting Wildfire Movement

- Critically evaluated A3C reinforcement learning applications for wildfire prediction through sustainability analysis
- Analyzed AI application sustainability impacts, linking to UN SDGs for Climate Action and Forest Management
- Proposed model enhancements including topographical data integration and advanced algorithms for improved accuracy

## Work Experience

### LMU Computer Science Department

*Student Tutor - Algorithms/Data Structures*

- Assisted students with classwork, homework, and test preparation
- Taught core algorithms and data structures concepts including adversarial search, dynamic programming, and greedy algorithms
- Conducted code reviews enhancing students' programming efficiency and debugging capabilities

Los Angeles, CA

Fall of 2023 - Spring of 2024

### Sysdig

*IT Intern*

- Developed and deployed license optimization automation system that identified unutilized Miro licenses, reducing weekly cost by \$3300
- Created internal chatbot prototype used to decrease repetitive requests to IT, Legal, HR, and Finance
- Addressed critical knowledge gaps by creating comprehensive technical documentation for license management and Jamf-based device troubleshooting

San Francisco, CA

Summer of 2023

## Skills

Python; PyTorch; Scikit-Learn; Data Preprocessing; Deep Learning (CNN, VAE, RNN, Transformers); Data Visualization (Matplotlib, Seaborn, Excel, Tableau); AWS (S3, CloudFront, Route 53, Lambda)