

# Lam Ngo

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**Research Interests:** Computer Vision, 3D Visualization / Digital Twin, AI for Medical Applications.

## RESEARCH EXPERIENCE

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### Visiting Researcher • 03/2025 - Present

CitAI Research Center • London, UK

*Project: Federated Dataset Simulation for Computer Vision Tasks* (Supervised by [Dr. Giacomo Tarroni](#))

- Investigating image clustering methods to create non-IID data for federated learning in computer vision tasks: (1) semantic clustering leveraging vision-language models (VLMs), large language models (LLMs), and multimodal LLMs; and (2) manifold-aware clustering utilizing intrinsic dimension estimation to optimize image partitioning in high-dimensional embedding spaces.
- Deployed the pipelines on HPC clusters for large-scale inference across 100,000+ images.

### Research Assistant • 09/2024 - 06/2025

Department of Computer Science, City University London • London, UK

*Project: Deep Dynamic Programming based Environment Modelling using Feature Extraction* (Supervised by [Dr. Chris Child](#))

- Explored how features embedded in neural networks trained with Deep Q Networks and dynamic programming can be utilized for environment modeling to better train AI agents in noisy setups without externally defined environments.

### Research Intern • 02/2019 - 05/2020

American Museum of Natural History • NYC, USA

- Technical assistant for [Terrapin Tracker](#), an animal tracking system using edge devices, which was selected as finalist for the Con X Tech Prize 2020.

### Undergraduate Research Assistant • 10/2016 - 05/2020

Department of Computer Science & Biology, University of the South • TN, USA

- Conducted data engineering and analysis using R and Python for a transcriptome research project.
- Collaborated with Kashmir World Foundation, Biology Department and Computer Science Department to develop a [drone-based wildlife monitoring system](#) with real-time image processing capabilities.

## PUBLICATIONS

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- Child, C., Ngo, L. (2026). DeeP-Mod: Deep Dynamic Programming Based Environment Modelling Using Feature Extraction. In: Jin, L., Wang, L. (eds) Advances in Neural Networks – ISNN 2025. ISNN 2025. Lecture Notes in Computer Science, vol 15951. Springer, Singapore. [https://doi.org/10.1007/978-981-95-1233-1\\_3](https://doi.org/10.1007/978-981-95-1233-1_3). Preprint: [arXiv:2504.20535](https://arxiv.org/abs/2504.20535)
- Balogh, A., Ngo, L., Zigler, K.S. et al. Population genomics in two cave-obligate invertebrates confirms extremely limited dispersal between caves. Sci Rep 10, 17554 (2020). <https://doi.org/10.1038/s41598-020-74508-9>

## EDUCATION

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### Master of Science in Computer Games Technology (Computer Science)

City, University of London • UK • 09/2023 - 10/2024

**GPA: Distinction.** Thesis: Feature Extraction from Deep Dynamic Network for Reinforcement Learning  
*Related courses: Computer Vision, Computer Graphics, Deep Reinforcement Learning, Advanced Games Technology (physics simulation, 3D graphics and AI algorithms)*

**Bachelor of Science in Mathematics.** Minor in Biology

Sewanee: The University of the South • USA • 08/2016 - 05/2020

**GPA: 3.46.** *Related courses: Linear Algebra, Multidimensional Calculus, Differential Equation, Partial Differential Equation and Modeling, Discrete Mathematics*

## RELATED INDUSTRY EXPERIENCE

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**C++ Programmer Mentee • 10/2023 - 03/2024**

Ubisoft Leamington • Leamington Spa, UK

- Built a modular entity-component architecture using modern C++ and provided API.
- Implemented AI algorithms to anticipate player movements, enhancing gameplay difficulty.

**Junior Programmer • 06/2022 - 06/2023**

Indi Games Inc. • Ho Chi Minh City, Vietnam

- Developed multiplayer game systems in Unity with real-time websocket integration.
- Collaborated with Japanese teams to deliver 3 commercial products, responsible for core mechanics.

## CERTIFICATES

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- **Deep Generative Learning**, DeepLearning.AI (2025) | Certificate ID: EOEXLWZN36BW

## SKILLS

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**Programming languages:** Python, C#, C/C++, TypeScript

**AI/ML:** PyTorch, Tensorflow, Deep Learning, Reinforcement Learning, Computer Vision, Hugging Face, VLMs, LLMs, MLLMs

**Tools and Tech:** HPC, Unity, Unreal Engine, Visual Studio, VS Code, DearImGui, OpenGL, OpenCV

**Others:** Git, Jira, Communication, Agile Development, Research and Academic Writing

## AWARDS

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- **Global STEM Leadership Master's Scholarship:** 75% tuition award, given to 10 top applicants (2023, *City St George's University of London*)
- **International Honors Scholarship:** partial tuition award (2016, *Sewanee: University of the South*)