

# Tom Lam

Computer Science Student | Deep Learning Enthusiast

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## SUMMARY

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- First-year computer science student with a passion for machine learning and data science
- Solid foundation in Python programming, data structures and algorithms
- Familiar with data analysis and ML tools, e.g. PyTorch, Scikit-learn, Matplotlib

## PROJECTS 🌐

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### Claude-haskell | Haskell, Unit Tests | [🔗](#)

- Developed an unofficial Haskell binding library for Anthropic's Claude API
- Supported text and media messaging, token counting, retrieving model details and batch processing
- Designed utilities and documentations for creating new custom API requests

### Candycombs | HONORABLE MENTION — BRISTOL CSS GAMEJAM 2024 | Python, Pygame | [🔗](#)

- Implemented a 2D Halloween-themed game as part of a team of 7
- Collaboratively developed a procedurally generated game map featuring animated characters
- Received Honorable Mention for Best Narrative and Best Gameplay

### Land Cover Segmentation with UNets | Python, PyTorch, Matplotlib, NumPy, ML | [🔗](#)

- Implemented [UNet](#) and [ResUNet-a](#) in PyTorch
- Trained models to perform semantic segmentation on the Multi-Source Satellite Imagery for Segmentation Dataset on Kaggle
- Visualized the segmentation results, model accuracy and IOU scores with Matplotlib

### LeNet-5 from Scratch | Python, NumPy, Pillow, ML, Linear Algebra, Tkinter | [🔗](#) [📄](#)

- Re-implemented the LeNet-5 model from Yann Lecun's paper (1998) using NumPy
- Created a handwritten digit recognition app with my LeNet-5 model
- Implemented a primitive neural network library with a handful of NN modules

**Layers:** Linear, Conv, Flatten, RBF, ReLU, Tanh, SoftMax, Sigmoid

**Criteria & Optimizers:** MSE, CrossEntropy, BCE, SGD, Adam

**Normalization & Regularization:** MaxPool, AvgPool, BatchNorm, Dropout

### Rice Image Classification | Python, PyTorch, Matplotlib, ML, Scikit-learn, Seaborn | [🔗](#)

- Created a CNN model to classify the 5 types of rice from the Rice Image Dataset on Kaggle
- Achieved an accuracy and average F1-score of over 99%, visualized with graphs and confusion matrices

## EDUCATION

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### University of Bristol

B.Sc. Computer Science

Bristol, UK

Sep 2024 - Present

### University of Warwick 🎓

International Foundation Programme in Computer Science

Coventry, UK

Sep 2023 - Jun 2024

- **Grade:** Distinction (92%) - Pure Maths 97%. Further Maths 98%. Computer Science 90%.

## ORGANIZATION

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### Core Team Member

Bristol Formula Student AI, University of Bristol

Nov 2024 – Present

Bristol, UK

## SKILLS

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**Programming languages:** Python, C, Haskell

**Data Analysis Tools:** Matplotlib, NumPy, Pandas, PyTorch, Scikit-learn, OpenCV, Pillow

**Languages:** English, Cantonese, Mandarin

## COURSES & CERTIFICATIONS

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### IBM AI Engineering Specialization 🌟

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