Pieter Max Feenstra

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MIT Computer Science student with a passion for real-world applications of AI. Proven skills in teamwork, innovation, and delivering effective solutions.

Education

Massachusetts Institute of Technology Cambridge, MA
Master of Engineering in Computer Science and Artificial Intelligence May 2026
B.S in Computer Science and Engineering; GPA: 4.7/5.0 May 2025
Minor in Mathematics and Concentration in Economics
Relevant Coursework: Fundamentals of Programming, Design and Analysis of Algorithms, Machine Learning, Probability and Random Variables, Discrete Mathematics, Linear Algebra, Quantitative Methods for Natural Language Processing, Deep Learning, Software Construction, Computation Structures, C and Assembly

Experience

Ericsson Austin, TX
Software Developer Intern June 2024 – Present

- Accelerated algorithms in the digital signal processing domain by using MLIR and developing custom dialects and passes to optimize software for large-scale multicore processors.
- Researched use cases with baseband engineers to identify the most effective optimizations to create.

MIT CSAIL InfoLab Cambridge, MA
Undergraduate Researcher Nov. 2023 – Present

- Assisted on research involving modular security with finetuning compositionality for large language models which involved creating datasets, conducting experimentation, and creation of novel models.
- Created a perplexity-based method based on the composable framework, which achieved SoTA results on anomaly detection in text generation and excelled in identifying the source of information of a given output.

University of Sydney School of Computer Science Sydney, Australia
Machine Learning Researcher June 2023 – Aug. 2023

- Collaborated with a multidisciplinary team to develop state-of-the-art algorithms in spatial transcriptomics, computer vision, and cell imaging using PyTorch.
- Employed CNN architectures and DNN architectures.

Department of Electrical Engineering and Computer Science, MIT Cambridge, MA
Undergraduate Teaching Assistant Feb. 2023 – Jun. 2023

- Assisted professors in teaching computer programming principles and mentoring students in debugging, coding styling, and algorithmic thinking.

Projects

Improving Deep Learning Based Molecular Fingerprints Through Informed Resampling Sep. 2023 – Dec. 2023

- Leveraged transformer-based architectures and SMILES strings for molecular property prediction tasks.
- Devised a strategy for resampling data for unspoken languages which meaningfully improved performance on downstream tasks, with implications for all domains of natural language processing.

A Method for Relieving Catastrophic Forgetting with Explainability Sep. 2023 – Dec. 2023

- Developed a novel technique to assess the significance of filters in convolutional neural networks, utilizing filter visualizations and saliency mapping.
- Used critical freezing to demonstrate that this selection approach improved neural network's memory of previous tasks, implying that the filters selected had more relevance to the tasks.

Leadership & Activities

Gordon-MIT Engineering Leadership Program Cambridge, MA
Student June 2023 – Jun. 2024

- Actively practicing leadership, teamwork, and communication skills in an engineering context; complementing MIT's technical coursework.

Varsity Men's Rowing Dec. 2017 – Present

- Member of 2021 US U19 National Team and 5th place finisher at Youth National Championships.
- 3x IRCA All-Academic Athlete

Skills

Technical Skills: Python, PyTorch, HuggingFace, TypeScript, JavaScript, C++, C, MySQL