Timothy H. Kostolansky

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Education

Massachusetts Institute of Technology *Cambridge, MA*
Candidate for Bachelor of Science in Physics and Computer Science, GPA: 4.8/5.0 September 2019 – May 2023

Coursework: Inference (6.437), NLP (6.8611), Machine Learning (6.036), Algorithms (6.046), Robotics (6.141), Software Construction (6.031), Quantum Physics (8.04/5), Relativity (8.033), Statistical Physics (8.044)

De La Salle High School *Concord, CA*
GPA: 3.9/4.0, ACT: 36, Awards: Dartmouth Book Club Award, National AP Scholar, National Merit Commended Student

Experience

Picower Institute for Learning and Memory *Cambridge, MA*
Undergraduate Researcher September 2022 – Present
- Developing and testing of convolutional neural network architecture with self-connectivity, i.e., neurons within each hidden layer with connections between themselves, mimicking the behavior of cell-to-cell connection that is present in the physical structures of the brain
- Neural network implemented in PyTorch and Julia

Second Spectrum Incorporated *Los Angeles, CA*
Software Engineer June – August 2022
- Upgraded and refactored video data pipelines from professional sports streams to company's S3 servers
- Used Temporal.io to protect from failure over long-running video protocols

Babbin Lab, MIT EAPS *Cambridge, MA*
Undergraduate Researcher June – December 2020
- Started development of a machine learning algorithm for determining the best depths to sample the ocean given past oceanographic data and local downcast data
- Algorithm implementation in Python using maximum likelihood estimation

Laser Interferometer Gravitational Wave Observatory (LIGO) *Cambridge, MA*
Undergraduate Researcher February 2021 –August 2021
- Updated prototype designs for the Fast Shutter System (protects high-sensitivity measuring equipment)
- Use of numerical physics simulation with Mathematica and hands-on work with designing and building shutter prototype

Leadership

Technology Director at MIT Science Policy Review April 2021 – Present
- Maintaining and updating Review's website, helping with article and cover uploads

Skills

Programming: Python 3, PyTorch, Julia, MATLAB, Mathematica, TypeScript; Language: Proficient in Japanese

Interests

- Vi/Vim, chess, ortholinear keyboards
- Quantum Computing Club Executive Member, Sigma Chi Fraternity
- Japanese National Team (2019 William Jones Cup, Taiwan), MIT Varsity Basketball