

# Grayson Martin

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## Education and Skills

**Harvard College**

Cambridge, MA

**A.B. in Computer Science with Secondary in Applied Mathematics**

2021 – 2025

- Traditional computer science coursework, data science, optimization, reinforcement learning, geometric machine learning, signals and communications, modern and classical control theory, computer vision, and HPC

**Technical:** Python, C++, MATLAB, LabVIEW, AMPL, LaTeX Typesetting, Soldering, Computer-Aided Drafting, Control Theory, Computer Vision, TensorFlow, PyTorch, Big Data, Transfer Learning, MPI, OpenMP, Git, CI Workflows

## Experience

**Medentum Innovations, Inc.**

Clintwood, VA

**Co-Founder**

May 2020 – Current

- Co-inventor of a patented device, gaining experience computer-aided drafting, coding, and prototyping
- Served as a liaison to a primary investigator for an NIH-backed data science project, interviewed potential employees, and actively review and edit grant proposals
- Supporting data scientists in COPD flare-up prediction, classification of ENT disorders, and multimodal generalist biomedical AI through literature review, exploratory data analysis, and TensorFlow model implementations

**The Kempner Institute at Harvard University**

Boston, MA

**ML Research Engineering Intern**

June 2025 – August 2025

- Research and development in support of a NeuroAI project focused on creating a modular, functional model of the mouse brain in PyTorch
- Generated several new Gymnasium environments, running training scripts to compare models in different environments and keeping track of performance with Weights & Biases integration
- Added the vision module of the brain, considering tradeoffs between complexity and generalizability

**Los Alamos National Laboratory**

Los Alamos, NM

**Robotics and Automation Rapid Prototype Intern**

May 2024 – August 2024

- Small team research and development in support of an automated robotic system for the assembly and disassembly of the DPP-3 shipping container for radioactive material
- Led the computer vision aspect of the project, fine-tuning pre-trained deep neural networks to recognize bolts and report their location in the camera frame
- Presentation and publication at Waste Management Symposium 2025 – awarded “Superior paper” rating

**The University of Tennessee Oak Ridge Innovation Institute**

Knoxville, TN

**Student Mentoring and Research Training Intern**

May 2023 – August 2023

- Worked in the autonomous systems lab modeling UAV flight paths and running optimization algorithms in MATLAB to determine optimal routes
- Compared paths generated using GPOPS-II optimal control software with two models of quadrotor dynamics to understand how the setup of the path-generation problem impacts solution quality and computational difficulty

## Leadership and Service

**Southwest Virginia Community College, Upward Bound Teaching Assistant**

June 2022 – July 2022

**The Harvard Crimson, Director of Data Journalism**

January 2024 – December 2024

## Projects and Patents

[Audio Spectrogram Bird Species Identification with CNNs](#): scraped audio files from XenoCanto, created and processed audio spectrograms, and implemented a TensorFlow CNN model for classification

[Curriculum Reinforcement Learning for Quadruped Jumping](#): extended another PyTorch project in the NVIDIA IsaacSim environment by introducing flying obstacles and reward-shaping for obstacle avoidance via jumping

[UNet Semantic Segmentation of Aerial Photographs](#): used PyTorch to fine-tune a U-Net with ResNet embeddings for semantic segmentation of aerial images of Mumbai

[Feeder Schools The Harvard Crimson](#): used Pandas to filter and sort data, fuzzy string matching for user-entered high school name matching, and Flourish for embedded HTML visualizations – 2024 SPJ Mark of Excellence N.E. Finalist

[US Patent #12183457](#): Diagnostic Device for Remote Consultations and Telemedicine