Henry Huang

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EDUCATION

HARVARD UNIVERSITY, GPA: 3.83   Cambridge, MA
Master of Science, Computer Science   2024 - 2026
Bachelor of Arts, Computer Science and Statistics (Joint)   2022 - 2026
- **Computer Science Courses:** Machine Learning, Computational Properties in Interpretable Machine Learning, Biological and Artificial Visual Systems, Data Structures and Algorithms, Theoretical CS, Systems Programming and Organization
- **Math/Statistics Courses:** Vector Calculus and Linear Algebra, Probability, Statistical Inference, Linear Models

Skills: Python, PyTorch, Tensorflow, Github, Matplotlib, Numpy, Java, SQL, Swift, XCode, C++, Kotlin, Typescript, AWS
Interests: machine learning, brain computer interfaces, interpretability, singing, frisbee, swimming, violin

PROFESSIONAL EXPERIENCE

Amazon   Seattle, WA
SOFTWARE ENGINEER INTERN   June 2024 - Present
- Trained, fine-tuned, and deployed an **object detection model** with an **ML textual embedding model** to cluster **600K ads** based on similar visual content (Amazon SageMaker, Cosine Similarity)
- Developed a system to orchestrate, aggregate, and filter **170 million daily ad metric log data** from data lakes (SQL)
- Created automated ad hoc **data visualizations** for **300+ advertisers**, enabling streamlined performance & trend analysis to support **$1 billion** in team's annual revenue (Apache Spark on Elastic MapReduce, QuickSight) with 500+% query speedup

Amazon   Seattle, WA
SOFTWARE ENGINEER INTERN   June 2023 - August 2023
- **Designed and implemented** an automated workflow for customer data deletion to handle up to **12,000 daily requests**
- Utilized AWS CDK, DynamoDB, Lambda, SNS, SQS, DLQ, Docker, REST API Integration, and **merged 17 code reviews**

RESEARCH

Harvard University VisionLabs   Cambridge, MA
MACHINE LEARNING RESEARCHER (COMPUTER VISION)   September 2023 - Present
- Implemented **Representational Similarity Analysis on CNNs**, focusing on AlexNet models trained on both ImageNet RGB images and line drawings. Investigated methods to **mitigate texture-bias classification**
- Analyzed the effect of **integrating depth data with ImageNet** using depth generation machine learning models

Stony Brook University Human-Computer Interaction Lab, Vision and Voice Researcher   Stony Brook, NY
COMPUTER VISION RESEARCHER   July 2021 - September 2021
- Created eye-gaze and voice based text correction for mobile devices, allowing users to edit text hands-free (Swift, Xcode)
- **Implemented a dual Gaussian model** enabling eye-gaze target selection, **reducing text-selecting time by 40%**
- **Research paper accepted and published** at the 2022 Intelligent User Interfaces (IUI) Conference

EXTRACURRICULARS

Harvard AI Safety Student Team   Cambridge, MA
TECHNICAL LITERATURE ANALYST   September 2022 - December 2022
- **Collaborated** with a team of peers to **discuss and synthesize latest AI safety research paper findings**, strengthening my ability to communicate technical ideas clearly
- Covered topics like **interpretability**, human feedback learning, & **goal misgeneralization** in reinforcement learning agents

FIRST Robotics Team   Orangeburg, NY
SOFTWARE ENGINEER LEAD   September 2021 - June 2022
- Taught younger students about the robot, creating a new software drivetrain, and navigating Github and Visual Studio
- Qualified and participated in the **FIRST Robotics World Championships** in Detroit

Computer Science Club   Orangeburg, NY
PRESIDENT   September 2020 - June 2022
- Expanded computer science throughout the community by hosting fairs, hackathons, and alumni talks
- Organized the first CS Fair for middle schoolers featuring student software projects, AR/VR, robotics, and cryptography.