JUSTICE VIDAL

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EDUCATION

Massachusetts Institute of Technology (MIT) **Cambridge, MA**

Masters in Electrical Engineering and Computer Science **February 2025**

Thesis: "Scalable Embedded Tiny Machine Learning (SETML): A General Framework for Embedded Distributed Inference"
Concentration: Artificial Intelligence

Bachelor of Science in Electrical Engineering, Computer Science and Physics **June 2023**

Minor: Philosophy

Relevant Coursework:

Signal Processing, Computation Structures, Interconnected Embedded Systems, Power Electronics, Microcomputer Project Laboratory, Modeling with Machine Learning: from Algorithms to Applications, Modern Machine Learning: Simple Methods that Work, Introduction to Quantum Computing, TinyML & Efficient Deep Learning Computing, Analysis and Design of Digital Integrated Circuits, Software Construction, Large-scale Symbolic Systems, Hardware Architecture for Deep Learning

SKILLS

Programming: Python, Pytorch, TensorFlow, C++, React JS/Bootstrap, CSS, Django, Typescript, X86 Assembly, SQLite
Software: PowerApps, Word, Excel, PowerPoint, GitHub Desktop, LTspice, PSOC Creator, Spectre Circuit Simulator
Hardware: PSOC 5 Microcontroller, STM32, ESP32, Soldering, Familiarity with core computer components

EXPERIENCE

MIT DIGITAL HUMANITIES LAB **Cambridge, MA**

Research Assistant, Lead Full Stack Developer **September 2019 – August 2024**

- Lead a team of 9 undergraduate students to create Indian election data visualizations for use by journalists resulting in a website integrating data from past 3 elections
- Developed 2 Python modules to streamline quiz question creation within the "Emerging Technologies for Language Learning" project to enhance user engagement and interaction with the platform
- Collaborated with a team of 4 students to conceptualize and design interactive archive featuring 100k historic images of 1970s Paris, utilized Django and React JS frameworks
- Lead 10 students in 3 teams in creating research articles for the "This Was Paris in 1970" website resulting in 3 articles demonstrating the site's utility to historians
- Collaborated with 3 other students to investigate the most effective object detection machine learning model for photos in "This was Paris in 1970" online photo archive and presented findings at the 2021 Connecticut Digital Humanities Conference
- Guided two 3-person teams through the development of the "Self-Sufficient Cities" project using React JS; efforts yielded 2 webpages on the cities.dhlab.mit.edu website containing the students' research

KEOLIS COMMUTER SERVICES **Boston, MA**

Full Stack Developer Intern **June 2021 – June 2023**

- Reported to the Director of Service Delivery Innovation and oversaw the design and implement new internal applications Expanded the capabilities of existing applications through full-stack development
- Addressed the need for a system for storing qualitative employee performance data using feedback from the Operations Integration Manager; resulted in the successful launch of an internal app for recording Train Conductor feedback
- Leveraged expertise and collaborated with Operations Planning team to rebuild the antiquated certification management website using Power Apps and presented final product to key stakeholders, including MBTA and Keolis COO

LEADERSHIP

STUDENT INFORMATION PROCESSING BOARD (SIPB) **Cambridge, MA**

President, System Administrator **September 2019 – December 2024**

- Collaborated with stakeholders and executive members to develop a plan to revise the power infrastructure of the club's server room; resulting in the purchase of a new Uninterruptible Power Supply (UPS) to balance room power draw
- Coordinated the restructuring of the club's server room to facilitate the management and creation of critical campus-wide services; Resulted in dedicated production racks with UPSs for critical servers and separate development rack to improve uptime in case of an outage
- Served as President for 1 term and led weekly club meetings, fostering collaboration among members to coordinate their campus-wide services
- Monitor status of production servers, cooling units, and UPS units weekly

AFFILIATIONS

Undergraduate Practice Opportunities Program (UPOP September 2020 – June 2021); MIT Eta Kappa Nu (HKN), tutor for 3 classes; Member of Theta Delta Chi; Interphase EDGE 2019 Cohort