Edward Donson

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EDUCATION AND RELEVANT COURSEWORK

Harvey Mudd College   Claremont, CA
BS - Mathematics and Computer Science   *Expected May 2026*

- Data Structures & Algorithms
- Math Methods in Data Science
- Linear Algebra
- Stochastic Processes
- Intermediate Probability
- Network Algorithmics

TECHNICAL SKILLS

Languages: Java, Python, C++, JavaScript, HTML/CSS, R, SQL
Frameworks: React, Node.js, Flutter, MySQL, MongoDB
Developer Tools: Git, VS Code, Eclipse, Linux/UNIX, Apache, Docker
Libraries: pandas, mongoose, NumPy, Matplotlib, ASE, AMP, PyTorch, scikit-learn, Express, rJAGS

EXPERIENCE

Software Engineer   Aug. 2025 – Present
Sokil Inc.   *Claremont, CA*

- Developing software to extract LiDAR and IMU data from proprietary file .lvx file type
- Leveraging eigenvalue-based curvature metrics to discern landmine presence in LiDAR scans, employing clustering and feature detection to highlight potential landmines and remove extraneous data points

Adversarial Machine Learning Research Intern   May. 2025 – Aug. 2025
Center for Artificial Intelligence Security Research, Oak Ridge National Laboratory   *Oak Ridge, TN*
Principal Investigator: Dr. Amir Sadovnik

- Developed extraction attack methods which leverage finetuned pre-trained vision models to produce transferable evasion attacks for a select target image
- Leveraged hessian analysis and loss surface visualization methods to theoretically validate extraction attack effectiveness, ensuring extraction attacks properly mimic target model loss surfaces

Data Science Research Intern   Jan. 2025 – Present
HADD Research Group, Harvey Mudd College   *Claremont, CA*
Principal Investigator: Dr. Jamie Haddock

- Conduct experiments on the accuracy of sketch-solve methods for non-negative least squares regression
- Compare existing randomized non-negative least squares regression with sketch-and-solve methods using similarity metrics like Jaccard similarity

LLM Education Research Intern   Aug. 2024 – Aug. 2025
METRICS Lab, Harvey Mudd College   *Claremont, CA*
Principal Investigator: Dr. Zachary Dodds

- Interpret hard metrics, like cyclomatic complexity and comment-code percentage, to understand LLM's effect on student's code writing habits
- Developed a Python script to convert and filter .ipynb files to produce compilable python code for static analysis

Machine Learning Research Assistant   Jan. 2024 – Sep. 2024
MolSim Lab, Harvey Mudd College   *Claremont, CA*
Principal Investigator: Dr. Sandra Brown

- Developed universal scripts to analyze neural network performance using pandas and NumPy and produce visualizations illustrating neural networks accuracy
- Trained artificial neural networks to predict molecule's potential energy using the Atomistic Potential Learning package for three molecules of differing complexity

Computer Science Grader and Tutor   Aug. 2023 – Aug. 2025
Department of Computer Science, Harvey Mudd College   *Claremont, CA*

- Improved student performance and understanding of programming principles, data structures or logic and computability through tutoring sessions attended by up to $\tilde{2}5$ students
- Collaborated with other graders to provide feedback for classes of up to 200 students, resulting in 100% of assignments having comprehensive feedback and grades

Publications

- Yuan Garcia, Jenny Ngo , Florence Rui Lin , Edward Donson , and Zachary Dodds. 2025. Adaptable Metrics to Assess and Improve Introductory CS. Proceedings of the ACM Global Computing Education Conference 2025 Vol 1 (CompEd 2025), October 21-25, 2025, Gaborone, Botswana. doi: 10.1145/3736181.3747157 [**Best Student Paper Runner-Up**]

Presentations

Science Undergraduate Laboratory Internship Symposium | *Oak Ridge National Laboratory*   July 2025
- Edward Donson and Amir Sadovnik. 2025. Query-Efficient Finetuning to Improve Adversarial Attack Transferability. ORNL, July 16, 2025, Oak Ridge, TN.

Consortium for Computer Sciences in Colleges Southwest | *UC San Diego*   Mar. 2025
- Yuan Garcia, Jenny Ngo, Florence Rui Lin, Edward Donson, and Zachary Dodds. 2025. Adaptable Metrics to Inform Introductory CS. CCSC-SW 2025, March 28-29, 2025, San Diego, CA. [**Best Poster Runner-Up**]

Harvey Mudd College Summer Research & Scholarship Poster Session | *Harvey Mudd College*   Sep. 2024
- Edward Donson and Sandra Brown. 2024. Development of Potential Energy Surfaces for Ionic Liquids using Artificial Neural Networks. Harvey Mudd College Summer Research and Scholarship Poster Symposium. 2024 , September, 2024, Claremont, CA.

Awards and Honors

Henry A. Kreiger Award   Nov. 2025
- Annual award presented to Harvey Mudd College seniors who shows particular promise in probability, statistics, or operations research

Dean's List   Jan. 2024 - Present
- Maintained 3.0 or above while taking 15 credits or more per semester

Leadership

Harvey Mudd Applied Math Club | *Co-President*   Aug. 2024 – Present
- Coordinate with SIAM, INFORMS and HMC Student Government to allocate upwards of $2000 to activites and talks related to Applied Math.
- Organize informational panels on math competitions, resulting in record registration of students in the Mathematical Competition in Modeling
- Schedule well-attended talks, up to 75, where students can learn of applied math related careers and network with industry professionals.

Mudders Exploring Careers in Tech | *Mentor*   Aug. 2024 – May 2025
- Introduced mentee to on-campus and online resources for getting involved in computer science and software engineering
- Advocated for and recommended mentee to join positions of research and club leadership

Projects and Organizations

Hyperschedule | *React, CSS, Git, UI Design*   Nov. 2023 – Aug. 2025
- Improved UX/UI experience by implementing advanced cursor highlights to schedules using React and CSS
- Assisted in negotiating $1,000 in funding from Harvey Mudd College and based on server and database requirements

Kanji Trainer | *Flutter, Dart, Git, Data Processing, Node.js, RESTful API*   Nov. 2022 – May 2023
- Engineered a data collection front-end software, which successfully collected thousands of handwritten Kanji characters, using Flutter software development kit
- Tested Kanji drawing software, resulting in a 100% back-end request success rate, utilizing Node.js and RESTful API convention