

David Pitt

Seeking roles in applied science and MLOps

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EDUCATION

- Harvey Mudd College** Claremont, CA
• *B.S., Math and Computer Science - in-major GPA 3.9* Aug 2019 - May 2023 Ex.
Relevant coursework: Stochastic Processes (graduate-level), Advanced Linear Algebra, Geometry of Big Data, Mathematics of Big Data, Intermediate Probability & Stats, Applied Algebraic Topology, PDEs, Dynamics, Artificial Intelligence, Computability and Logic, Data Structures & Algorithms, Object-Oriented Programming
 - **Honors and awards:** Harvey S. Mudd Scholarship, Dean's list every semester.
 - **Math 157 head grader:** Graded all assignments for upper-division probability theory course.
 - **CS5 grader/tutor:** Graded assignments and held weekly TA sessions for advanced intro computer science course.
 - **Community involvement:** Co-founder of HMC Chess, member of Engineers for a Sustainable World

EXPERIENCE

- Groundlight AI** Seattle
• *Machine Learning Engineer Intern* May 2022 - Aug 2022
 - **Model tuning:** Implemented search strategies from literature for optimizing hyperparameters of ML models in vision pipeline. Designed and developed a model-agnostic cost-sensitive calibration framework. **Decreased calibration error in production by 88%.**
 - **Science:** Developed and trained new domain-specific feature extractors using self-supervised learning. Explored a novel method for anomaly detection in video. Refreshed internal techwiki, added mathematical proofs. Led paper-reading journal club meetings, presented NIPS/CVPR papers to an audience of engineers and scientists.
 - **DevOps:** Automated end-to-end ML model testing workflows in production API.
- Inspirit AI** Remote
• *Instructor* May 2022 - present
 - **Teaching AI:** Led nightly sessions of a Python-based AI course for high school students.
- Granite Point Capital** Boston
• *Equity Research Analyst* May 2021 - Aug 2021
 - **Equity research:** Led a team of interns to cover 20+ blockchain/digital currency companies and use fundamental tools to deliver investment theses to management
 - **Trade analytics package:** Independently designed and built a lightweight framework to allow PMs to analyze trade flow using prime broker data logs. Used to investigate quality of deal stock sold by smaller brokers.
- Nanotronics Imaging** New York
• *Junior R&D Associate* Jun 2020 - Aug 2020
 - **Image preprocessing:** Implemented a U-net in Tensorflow to correct an artifact of high-res microscopy for use downstream in computer vision pipeline.
 - **Classical computer vision:** Implemented image segmentation/stitching to preprocess another imaging artifact.
- Harvey Mudd College** Claremont
• *Machine Learning Intern* Feb 2020 - May 2020
 - **ML course:** Updated a spring lecture series on machine learning topics in Python for students at the Claremont Colleges.
 - **Coursera administrator:** Designed and oversaw a free Coursera program for students during the early months of the pandemic, with 40% of students enrolling.

PROJECTS

- **Graph neural network for EEG data processing:** (Work in progress) Researching and developing a graph-attention-based approach that structures EEG signals as dynamic networks. Implementing on a series of public EEG datasets.
- **Fractal animator:** Designed tools to visualize and animate ultra-high-resolution animations of dynamical system end behavior. Uses parallelization to render and save to disk orders of magnitude faster than previous tools.
- **Chaotic Encryption:** Designed my own encryption scheme based on chaotic behavior to encode text and image data.
- **N-body Simulator:** Designed my own numerical integrator to simulate solutions to arbitrary N-body problems with initial conditions.

TOOLS & TECHNOLOGIES

- **Languages:** Python, C++, SQL, Bash, Java, Maple
- **Frameworks:** NumPy, Pandas, scikit-learn, OpenCV, NLTK, Pytorch, Pytorch-Geometric, Tensorflow, Keras, WandB
- **Tools:** Linux, Git, Docker, GitHub Actions, DVC, MySQL, Neo4j
- **Communication:** English (native), Mandarin Chinese (business proficient)