

David Pitt

Seeking roles in applied science, R&D and engineering

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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** Seattle
Applied Science Intern May 2022 - present
 - **Hyperparameter tuning:** Implemented new search strategies for calibrating ML models in pipeline.
- **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
 - **Independent - trade analytics:** Developed a lightweight framework for analyzing trade flow using prime broker's data. PMs still use it to evaluate broker performance.
- **HMC Bee Lab** Claremont
Researcher Jan 2021 - May 2021
 - **Parameter testing:** Ran large parameter sweeps on a coupled ODE model of ant traffic networks from literature to find parameters that created behavior consistent with ground truth.
- **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 CV 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 College Consortium.
 - **Coursera administrator:** Designed and oversaw a free Coursera program for students during the first 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, NLTK, Poetry, Pytorch, Pytorch-Geometric, Tensorflow, Keras, WandB, Networkx
- **Tools:** Git, DVC, MySQL, Neo4j
- **Communication:** English (native), Mandarin Chinese (business proficient)