Timothy Ng

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EDUCATION

University of California, Irvine *September 2024 - December 2025*
Master of Data Science GPA: N/A

University of California, Davis *September 2021 - June 2023*
Bachelor of Science, Mathematics Dean's List, GPA: 4.00/4.00

SKILLS

Python	**Java**	**MATLAB**	**SQL**	**MapReduce**	**WebSocket**	**HTTP Requests**
proficient	comfortable	proficient	beginner	comfortable	comfortable	comfortable

Jupyter Notebooks	**PyTorch**	**Numpy**	**Pandas**	**Scikit-learn**	**LaTeX**	**Blender**
proficient	comfortable	proficient	comfortable	beginner	proficient	proficient

EXPERIENCE

Process Development Engineer Intern—Gradient Orthodontics *May 2022 - Present*

Gradient Orthodontics is a start-up that intends to fabricate clear dental aligners that focus on predictable tooth movements as well as comfort for the patient.

- ❖ Algorithm development - developed precise algorithms to convert 3D object inputs into 3D printing instructions, optimizing support for custom dental aligner models with stress reinforcement features.
- ❖ App development (interface designs, backend connections) - engineered multiple apps in MATLAB that collect and analyze data from a multi-device laboratory setup.

Math Club @ UC Davis *Fall 2021 - Spring 2023*

- ❖ President: Fall 2022 - Spring 2023
  - Led and managed a team of 10 club officers to fulfill club objectives throughout the school year
  - Functioned as a key contact between the UC Davis Math Department and its undergraduate students
- ❖ Event Chair: Fall 2022 - Spring 2023
  - Planned and executed 27 club meetings over the school year
  - Worked with graduate students and outside companies to teach undergrads about life after graduation
  - Collaborated with other clubs to set up events to promote both
- ❖ General Member: Fall 2021 - Spring 2023

UC Davis Directed Reading Program *Fall 2021, 2022*

- ❖ Cryptography, Fall 2021
  - Studied classical cryptography systems, such as simple ciphers, block ciphers, and Enigma
  - Used number theory concepts to prove simple cryptographical theorems
- ❖ Geometric Combinatorics, Fall 2022
  - Studied convex polytopes, Schlegel diagrams, and different ways to describe polytopes
  - Learned about Alternating Sign Matrices in the context of the ASM polytope

AWARDS AND CERTIFICATIONS

- Yueh-Jing Lin Scholarship *June 2023*
- Certificate of Accomplishment in Mathematics *June 2023*

NOTABLE COURSEWORK

ENG 006 - Intro to Engineering - Fall 2021
MAT 108 - Optimization - Winter 2022 - *Studied optimization of linear programs using the Simplex algorithm and the path-following interior point method. Implemented both algorithms with various pivoting rules in MATLAB.*
MAT 180 - Mathematics of Machine Learning - Fall 2022 - *In-depth exploration of gradient descent and common ML models such as general and specialized neural networks (CNNs, RNNs), Naive Bayes, Principal Component Analysis. Covered unsupervised models including k-means clustering.*
ECS 032B - Data Structures - Winter 2023
MAT 167 - Applied Linear Algebra - Spring 2023
DATA 220P - Databases and Data Management - Fall 2024
CS 271P - Artificial Intelligence - Fall 2024