

Theo Rode

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Projects

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| Nov 2021 -
Dec 2021 | The Three Body Problem Simulation <ul style="list-style-type: none">• Built a simulation engine in Python, using PyGame, for the infamous Three Body problem: modeling the chaotic motion of three gravitational bodies.• Collaborated with a group to improve accuracy and dependability of the simulation.• Analyzed starting conditions and critical points to develop an understanding of the problem. |
| Jan 2021 -
Apr 2021 | Music Recommendation Engine <ul style="list-style-type: none">• Built a machine learning model using TensorFlow to predict likelihood of a user enjoying a specific song.• Interfaced with the Spotify web API to grab song data and formatted data using Pandas for training.• Constructed a desktop application to view currently playing Spotify song, rate it to train the model, and see the model's prediction for likeability. |
| May 2020 -
Aug 2020 | COVID-19 Data Analysis <ul style="list-style-type: none">• Cleaned and formatted COVID-19 case and death data in Python using Pandas.• Analyzed the data using numerous predictive models to determine patterns and create predictions.• Crafted visual representations of data to demonstrate patterns and predictions. |
| Nov 2021 -
present | Writing and Teaching Math Curriculum <ul style="list-style-type: none">• Identified major issues with traditional middle/high school math education through numerous interviews with a diverse group of teachers.• Designed custom course curriculum with class notes typeset in LaTeX.• Organized and taught week-long calculus bootcamp for 9th graders using my custom curriculum. |

Work Experience

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| Sep 2022 -
present | Homework Hotline
Harvey Mudd College <ul style="list-style-type: none">• Helped kids from elementary to high school with homework questions related to math and science.• Communicated over phone or messaging, adapting my communication style to fit the platform and recipient. |
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Education

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| 2022-2026 | Undergraduate Degree
Harvey Mudd College
Current freshman pursuing a degree in Computer Science and Math. Current coursework: CS42 (Principles and Practice of CS), MATH019 (Single & Multivariable Calculus), CHEM42, WRIT1, PHYS23 |
| 2018-2022 | High School
The Nueva School
GPA: 3.91 (unweighted). Relevant coursework: Quantum Information and Computation, Algorithms, Computer Security, Computer Vision, Multivariable Calculus, Linear Algebra, Intro and Advanced Machine Learning, Graph Theory, Game Design, Mobile App Design, Cryptocurrency |

Skills

- Programming languages: Julia, Python, Rust, JavaScript, MATLAB, HTML, CSS
- Tools: git, TensorFlow, Pandas, React Native, Unreal Engine
- Strong leadership and teamwork skills

Hobbies

I love playing tennis and skiing. I also enjoy sleight of hand magic and have organized a group of fellow magicians to perform at birthday parties. And I can frequently be found solving puzzles, anything ranging from a rubik's cube to a 5000 piece floor puzzle.

Non profit

I have helped with servicing and repairing bikes to be donated to people in need.