Nicolas Lindbloom-Airey

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Education

University of California, Santa Cruz — Santa Cruz, CA
BA Mathematics — Sep 2018 - Jun 2022

Courses

Mathematics
- Linear Algebra
- Intro to Proofs
- Advanced Linear Algebra
- Intro to Math Education
- Abstract Algebra
- Differential Equations
- Complex Analysis
- Algebraic Geometry

Computer Science
- Data Structures
- Algorithms and Abstract Data Types

Physics
- Intro Physics - Mechanics
- Intro Physics - Wave Motion
- Intro Physics - Electricity and Magnetism

Mountain View High School — Mountain View, CA
GPA: 4.1 — Aug 2014 - Jun 2018

- AP Computer Science with a score of 5
- Advanced Computer Science (data structures)
- AP Calculus BC with a score of 5
- Multivariable Calculus / Vector Calculus
- AP Physics Mechanics and AP Physics E+M

Work Experience

José Valdés Math Institute — Stanford University, Palo Alto, CA
Classroom Program Assistant — Summer 2018, Summer 2019

- Jose Valdes is a non-profit organization that teaches math during the summer to local 6th-8th graders. The program is 4 days a week from 8am - 3pm and lasts 7 weeks.
- My job was to be a teaching assistant to a credentialed math teacher.
- I have taught many lessons myself to classes of about 20 students. I also manage and chaperone the students during their breaks and lunches.

Undergraduate Research — UC Santa Cruz, CA
Math Education Research Group with Dr. Judit Moschkovich — Fall 2019 - Present

- I attend research group once a week where we read and discuss current research in the area of math education. We support the PhD candidates with anything they need.

Skills

Programming Languages:	Java, C, Python, Javascript, UNIX, HTML 5, Git, Data Structures
Spanish:	Fluent, Reading, Writing, Speaking
Traits:	Patient, Problem Solving

Computer Science Projects

Hack Computer Construction
Skills: logic gates, computer architecture

- As my hardware simulator, I used Minecraft. I designed many logic gates in-game and used them to build a full, general purpose computer.
- I built the Hack computer hardware from the book "Elements of Computing Systems" by Noam Nisan.
- The Hack architecture is a general purpose 16 bit computer.

Pokemon Battle Simulator
Skills: program optimization for specific goals

- The goal of this project was to train an AI to battle Pokemon and then use that AI to run a genetic search on Pokemon teams. This requires simulating many battles and thus requires a fast simulator.
- The Pokemon Showdown simulator is open source and can serve this purpose but it was not written with speed in mind.
- I wrote a battle simulator that is 40x faster than Pokemon Showdown.

Taylor Swift Translator
Skills: natural language, using APIs

- I utilized the IBM Watson natural language processing to translate any english language string to a one line Taylor Swift lyric.
- I do this by using Watson to assign emotion to the given string and then match that string to the most emotionally similar lyric.