

# Daniel Van Der Maden

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## EDUCATION

### University of California, Berkeley

Berkeley, CA

B.A. Computer Science – GPA: 3.68/4.00

December 2019 (Expected)

- Areas of academic interest: Human-Computer Interaction, Natural Language Processing, and Artificial Intelligence.
- Relevant coursework: Database Systems (IP), UI/UX Design (IP), Computer Security (IP), Efficient Algorithms, Intro to Artificial Intelligence, Natural Language Processing, Intro to Linguistics, Machine Structures, Data Structures, Structure & Interpretation of Programs, Designing Information Devices, Discrete Math & Probability Theory, Linear Algebra & Differential Equations.

## EXPERIENCE

### Microsemi

Aliso Viejo, CA

Software Engineering Intern – Frequency and Timing Division

May 2018 – August 2018

- Part of a team that worked on a modernized eLoran (radio navigation and data) system, which could function as a self-contained backup of a Global Navigation Satellite System (E.g: GPS & GLONASS).
- Implemented multiple proprietary signal schemes and created an API to interface all of them with a custom transmission timer.
- Shortened scheme implementation time by creating data collection and development tools for a custom transmission timer.

### EECS Department, UC Berkeley

Berkeley, CA

Tutor – Self-Paced Center

January 2019 – May 2019

- Improved student understanding by holding office hours for students learning C, C++, Java, and Python.
- Graded projects and gave feedback that encouraged industry-ready practices. Also graded quizzes and final exams.

Academic Intern – Structure and Interpretation of Computer Programs Course

August 2018 – December 2018

- Fostered interest in Computer Science fundamentals by providing guidance on homeworks and projects during office hours.
- Assisted course staff during lab sessions by conducting lab checkoffs and answering questions regarding course content.

### Computer Science Mentors, UC Berkeley

Berkeley, CA

Mentor – Designing Information Devices and Systems I Course

January 2019 – May 2019

- Helped students solidify core EECS concepts by leading a supplemental 1.5 hour discussion section each week.
- Mentored a cohort of students throughout the semester and helped develop supplemental worksheets and lesson plans.

### J-Sei Community Center

Emeryville, CA

Technology Consultant for Seniors

September 2017 – December 2017

- Effectively communicated with the elderly a verity of tech safety topics such as internet privacy and malware protection.

## NOTABLE PROJECTS

A detailed list (with repo links) can be found on my personal [website](#)

### Easy Seq2Seq Chatbot – Personal Project

🔗 [Link to repo](#)

- A chatbot that is implemented using a sequence to sequence model with an easy way to define training and model parameters.
- It features a caching system, saving and loading models, interrupt recovery, memory efficient training, and multiple data filters.

### Approximate Solver for a NP-Hard Problem – Efficient Algorithms Course Project

🔗 [Link to repo](#)

- A polynomial time approximate solver that uses a greedy algorithm with various heuristics (each is considered, best is chosen).
- Yielded solutions that were in the top 10% of all approximations in the course (which had  $\approx 700$  students).

### Coreference Annotator – Natural Language Processing Course Project

🔗 [Link to repo](#)

- Annotates the antecedent for each pronoun in a given dataset using a logistic regression model. Achieved 71% accuracy on test data.

### My Personal Website – Personal Project

🔗 [Link to repo](#)

- A website that I created using Bootstrap and some JavaScript with jQuery to handle the styling and interactive components.

### Concurrent Cached File Server – Machine Structures Course Project

🔗 [Link to repo](#)

- A file server (written in Golang) with a cache that can efficiently handle thousands of concurrent file requests (on a laptop).

### 61Ccc Compiler (to RISC-V) – Machine Structures Course Project

🔗 [Link to repo upon request](#)

- Compiles code that is written in the 61Ccc language (a made-up subset of C) into universally compatible RISC-V assembly.

## SKILLS

**Programming Languages:** Python, Java, C++, C, Golang, Scheme, RISC-V/x86, SQL, HTML, CSS, JavaScript, LaTeX

**Technologies:** Scipy/Numpy/Pandas, NLTK, Keras, Scikit-learn, Hadoop, OpenMP, Intel AVX, Bootstrap, MySQL, AWS EC2

**Spoken Languages:** Native English speaker, fluent in French, basic understanding of Vietnamese.