Tamara Vilaythong

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https://tamvilaythong.github.io/

Education

- **University of California, Berkeley** — Berkeley, CA
  Bachelor of Arts, Computer Science; GPA: 3.551 — *Expected Graduation May 2021*
  Minor in Data Science

Experience

- **Northrop Grumman Corporation** — San Diego, CA
  Software Engineer Intern — *May 2019 - August 2019 and May 2020 - Present*
  - A team member of the '524' project and Resilient Network
  - Developed unit tests and a text parser for aircraft messages
  - Developed APIs for collecting network metrics and reduced network overhead by working with gRPC
- **UC Berkeley Department of EECS** — Berkeley, CA
  Data 8 Head Undergraduate Student Instructor — *Jan 2019 - Present*
  - Instruct a lab section of around 30 students for an introductory data science class of 1500 students
  - Course director working directly under the professors, and helping lead all TAs
  - Formerly in charge of content and infrastructure which I created and built homework, and maintained the course website
  - Hold office hours and assist students on Piazza for questions about Python-based homework and projects, and grade midterms and finals

Projects

- **Pintos Operating System (C, OS)**:
  - Implemented user program support, system call interface, priority thread scheduling, and cached file system of the Pintos Operating System in a team of 4
- **Database (Java)**:
  - Implemented a B+ tree for dynamic multilevel database file indexing, iterators, join algorithms, cost estimation, query optimization, and concurrency lock manager for an SQL relational database
- **Personal Website (HTML, CSS)**:
  - Designed and developed personal website from scratch using HTML, CSS, JavaScript, jQuery, and Bootstrap
- **Bear Maps (Java)**:
  - Google Maps inspired web-based routing application. Implemented the back end for the mapping and routing of Berkeley by using existing front end and OpenStreetMap mapping data
  - Developed map rastering, zoom functionality, and clicking for location selection
  - Used a SAX parser with an OSM XML data file to build a graph representation of the Berkeley area, and applied A* algorithm with the graph representation to implement shortest-path routing
- **VR Bowling Hackathon Project (C#)**:
  - Created a VR Bowling Game at SodaHacks 2018 in a team of 4 with a top 8 finish
  - Used Unity 3D with Oculus Integration and C#
  - Contributed to the VR testing and developed the game environment/setting

Related Coursework

- **CS 161:** Computer Security
- **CS 162:** Operating Systems and Systems Programming
- **CS 161:** Artificial Intelligence
- **CS 170:** Efficient Algorithms and Intractable Problems
- **CS W186:** Introduction to Database Systems
- **STAT C100:** Principles and Techniques of Data Science
- **CS 61C:** Machine Structures
- **CS 70:** Discrete Mathematics and Probability Theory
- **CS 61B:** Data Structures
- **STAT C8:** Foundations of Data Science
- **EE 16A:** Designing Information Devices and Systems I
- **CS 61A:** Structure and Interpretation of Comp. Programs

Programming Skills

- **Highly skilled**: Python, C, Java
- **Familiar**: Golang, HTML, CSS, Scheme, SQLite
- **Platforms**: Git, Bitbucket, Vim, IntelliJ IDE, Microsoft Office, Sublime