Nathan Huynh

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EDUCATION

University of California, Berkeley — Berkeley, CA
Bachelor of Arts in Computer Science, Minor in Data Science — *August 2022 - May 2026*
Coursework: Data Structures, Algorithms, Computer Architecture, Web Development — **GPA: 3.95**

WORK EXPERIENCE

The Aerospace Corporation — El Segundo, CA
Software Engineer Intern — *May 2024 – August 2024*
- Contributed to a web app allowing government customers to create and edit documents to publish their work and findings using **Angular** frontend, **Python Flask** backend, and **MongoDB** database
- Engineered an advanced admin dashboard that centralized document management, integrating status control and portion marking capabilities; improved workflow efficiency by **40%**, streamlining operations for over 30 team members.
- Created a **CI/CD pipeline** for an interference analysis project using **Jenkins** to streamline deployments, reducing deployment time by **14%**
- Increased test coverage of the interference analysis project by **16%**, enhancing overall project reliability and quality

UC Berkeley Computer Science Department — Berkeley, CA
Course Staff CS61A Tutor — *August 2024 – Present*
- Led office hours for **1,000+ students**, covering key topics such as **Object-Oriented Programming (OOP)**, recursion, control structures, and higher-order functions in languages such as **Python, Scheme, and SQL**
- Assisted in grading and evaluating student assignments, providing detailed feedback to promote academic growth

Computer Science Mentors — Berkeley, CA
Junior Mentor → Senior Mentor — *August 2023 – Present*
- Facilitated a section for five Berkeley students weekly on topics from the main Berkeley CS introductory class
- Helped plan and develop review sessions for midterms and finals
- Trained up to four Junior Mentors to improve their teaching techniques and methods

PROJECTS

Lectury | *React, Node.js, Express*
- Developed a full-stack web application that automatically generates concise notes from lectures or YouTube videos by extracting transcripts and applying advanced text summarization techniques using **OpenAI API**
- Integrated **YouTube Transcript API** and **FFmpeg** to extract audio from uploaded videos, processed with **Google Cloud Speech-to-Text** to generate transcripts; built with a **React** frontend and a **Node.js/Express** backend to handle API requests and process video and text data

TikTok Reddit Story Video Automator | *Python*
- Developed a Python bot to automate the creation of TikTok videos featuring popular Reddit stories with gameplay backgrounds, leveraging a trending format on the platform
- Automated the entire process from content retrieval to video production by utilizing **Reddit API (PRAW)** for content gathering, implementing text-to-speech voice overs with **Google Text-to-Speech** library, and integrating video creation using the **Pymovie** library

WordNet and NGram Viewer | *Java, CSS, HTML*
- Developed a unique **graph class** in **Java** to store and manage over **80,000 words** and **400,000 hyponym-hypernym relationships** from **WordNet**, representing semantic relationships between synsets
- Created an **NGram Viewer** that graphically displays user-selected words or phrases (**ngrams**) of up to **50,000 words**, showing their occurrences in a corpus

TECHNICAL SKILLS

Languages: Java, Python, C, SQL (Postgres), JavaScript, Typescript, HTML/CSS, Regex
Frameworks: React, Node.js, Flask, JUnit, PyTest, Material-UI, Angular, MongoDB
Developer Tools: Git, VS Code, PyCharm, IntelliJ, Eclipse, Jupyter Notebook, Poetry
Libraries: pandas, NumPy, Matplotlib