

KEVIN CAO

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Education

UC San Diego

M.S. in Electrical Engineering (Computer Engineering)

Exp. Dec 2022

La Jolla, CA

UC San Diego

B.S. in Computer Engineering | GPA: 3.73/4.0

Exp. Dec 2021

La Jolla, CA

Relevant Coursework

- Data Structures
- Algorithms Analysis
- Operating Systems
- VLSI Systems
- Computer Architecture
- Deep Learning
- Database Analytic
- Probabilistic Reasoning

Experience

ASML

Jun 2021 – Sep 2021

Software Engineer Intern

San Diego, CA

- Worked with the Technical Development team to support proposed 1 μm framework: introduce additional vessel laser as well as reduce laser wavelength by 90% to increase EUV generation efficiency.
- Developed in C++, XML, and Python a diagnostic tool to collect system parameters for production.
- Designed the dynamic mock-ups for frontend layout to group related variables for technical intuition.

UC San Diego - Jacobs School of Engineering

Jan 2020 – Apr 2020

ECE Lab Tutor

La Jolla, CA

- Assisted professor Sujit Dey's class of 145 students in boolean algebra and digital circuit design.
- Led weekly lab hours to explain concepts relating to circuit design and implementation on Xilinx Vivado.

Projects

Web Analytic Visualizer | *Apache2, MongoDB, Node.js, DigitalOcean*

May 2021

- Hosted and configured a server on Apache2 with droplet from Digital Ocean to both instantaneously and periodically fetch user data and display in a separately configured dashboard.
- Designed a collector script to populate a Mongo database with static, performance, and activity data.
- Implemented user authentication and management to access dashboard where data from database is extracted and compiled into charts and graphs for visual analytic.

Pomodoro | *Node.js, JavaScript, GitHub, Jest, ESLint, JSDoc, Cypress*

Jan 2021 – Mar 2021

- Worked as a developer on a team to deploy a Pomodoro timer web application under Agile development environment.
- Set up CI/CD pipeline with Jest, ESLint, and JSDoc for automated code validation on commit.
- Engineered backend logic to store user input distractions and preferences; tested e2e using Cypress.

Anime Search App | *React, HTML, CSS, Jikan API, Firebase*

Dec 2020

- Created a web application that allows users to search for arbitrary animes and returns the 20 most related entries with information including its synopsis, ratings, reviews, etc.
- Responds to the Jikan API to receive up to 30 requests of 20 entries each per minute, where the requests in the past 24 hours are cached.

Automated Image Captioner | *PyTorch, JupyterHub, NumPy, nltk, CUDA*

Nov 2020

- Trained a deep learning recurrent neural network to caption images from the Microsoft COCO dataset.
- Implemented teacher forcing on a ResNet50 convolutional network with LSTM cells to obtain a softmax distribution of potential caption words.
- Built and tuned a multi-class cross entropy evaluator reaching an average BLEU score over 64 on a test set containing over 3,000 images and 15,000 captions.

Technical Skills

Languages: Python, C++, JavaScript, C

Web Development: HTML, CSS, MongoDB, React | **ML Tool Kits:** PyTorch, nltk

Others: Bash, System Verilog, git