

JESSE ZHONG

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EDUCATION

Vanderbilt University

BS/MS Computer Science, BA Mathematics, Piano Minor (GPA: 4.00)

Nashville, TN

Expected May 2026

RELEVANT COURSEWORK

- Data Structures
- Operating Systems
- Algorithms
- Cryptography
- Software Design
- Programming Languages
- Machine Learning
- Software Engineering

EXPERIENCE

Splunk (Incoming SWE Intern on the Data Platforms Team)

June 2024 – August 2024

Vanderbilt Department of Computer Science

August 2023 – Present

TA for Intermediate Software Design

- Graded and provided detailed feedback on assignments and exams for 200+ students and delivered interactive lectures on key topics like data structures, algorithms, advanced C++ features, software design principles and design patterns
- Conducted weekly office hours and offered personalized assistance on C++ programming assignments, contributing to a 15% improvement in student grades over the semester

Brain Racers

June 2023 – September 2023

Software Developer Intern

- Wrote SQL queries for AWS RDS database to extract key data insights, improving data processing efficiency by 23%
- Increased user retention by 24% by integrating educational animations with React and TypeScript
- Collaborated with cross-functional teams in agile cycles, aligning development with company goals and user needs

Open Avenues

June 2023 – August 2023

Software Engineer Intern

- Leveraged the Lob API and scripts to automate sending 5000+ birthday cards via an app deployed on Heroku
- Constructed REST API endpoints for handling users and events in a PostgreSQL database and tested using Insomnia

VandyHacks

February 2024 – Present

Content Committee Board Member

- Crafted workshops related to topics like cloud computing or machine learning, with audiences of 80+ students

PROJECTS

Spotify Stats (Link) | React, AWS Amplify, Lambda, DynamoDB, API Gateway

- Utilized Spotify's API endpoints to create a small-scale website of 100+ users that displayed user profile information, top tracks and artists, and recently played content in a single-page application using React, HTML, CSS, and JavaScript
- Deployed app on AWS Amplify and added a fun additional button that was integrated with AWS API Gateway to change the background color and trigger a Lambda function to store the new color in a DynamoDB database

AI Image Generator (Link) | MongoDB, Express, React, Node, Tailwind CSS, Cloudinary

- Built a website that can generate up to 6000 AI images per month from user prompts using OpenAI's DALL-E API
- Implemented REST API endpoints using Node and Express: one for generating an image, storing it in Cloudinary, and storing the image URL in MongoDB and another for displaying all images from the URLs with millisecond latency
- Produced an aesthetic frontend consisting of a gallery page and an image creation page using React and Tailwind CSS

XOR Problem Solver | Python, Tensorflow, Keras, NumPy, Matplotlib

- Solved the XOR problem by creating a multi-layer neural network using Keras while adjusting the number of hidden layers, number of nodes per layer, which optimizer to use, number of training epochs, and batch size
- Generated training and test patterns through random samples from a 2D multivariate normal distribution, held out 20% of training data to spot overfitting, and plotted training performance and classification decisions using Matplotlib

SKILLS

Languages: C++, C, Java, Python, Racket, Prolog, HTML, CSS, JavaScript, TypeScript, SQL

Frameworks/Technologies: React, Node, AWS, Linux, Git, Docker, Tensorflow, Keras, Firebase

Certifications: AWS Certified Cloud Practitioner

OTHER

Extracurriculars: Math Club (Vice President), VandyHacks (board member), Phi Chi Theta Professional Business Fraternity, Piano Society, Harmonies for the Elderly, Asian American Student Association, Vandy Sales

Awards/Honors: 2x AIME Qualifier, Letter of Commendation from National Merit Scholarship Program, Dean's List

Interests: Chopin Etudes, pickup basketball, Coldplay, Lana Del Rey, capybara videos, pesto pasta