

John Park

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EDUCATION

University of California, Irvine

Irvine, CA

B.S. in Computer Science, GPA: 3.8/4.0

September 2024 – June 2028

Relevant Coursework: Data Structures & Algorithms, Machine Learning, Programming in Python & C/C++, Linear Algebra, Computer Architecture, Discrete Mathematics, Object Oriented Programming

EXPERIENCE

Software Engineer Intern

June 2026 – Present

TrellisWare Technologies

San Diego, CA

- Engineered a Python/PostgreSQL ETL pipeline to unify 1000+ JSON/CSV/.log automated test results for radio hardware verification, improving data quality and cutting manual validation by 80%, enabling faster and more reliable reporting
- Implemented nginx as a TCP reverse proxy in front of PostgreSQL and routing all client connections through a single entry point, reducing the database's attack surface by eliminating direct external access to PostgreSQL
- Built database push functionality into the existing Ansible/Fabric/pytest automation pipeline as a custom pytest CLI option, enabling one-command result ingestion post-test and cutting query execution times by 50%

Software Engineer Intern

March 2026 – June 2026

My Connective Care LLC

Remote

- Built full-stack website aimed to improve patient-facing care coordination using React, TypeScript, and Fastify, consolidating caregiver, clinician, and family updates into a single role-based platform
- Built CI/CD pipelines with GitHub Actions and Docker, deploying AWS (Cognito, Amplify, EC2) achieving uptime of 100%

Learning Assistant

January 2026 – March 2026

University of California, Irvine – Data Structures and Algorithms

Irvine, CA

- Supported 200+ students by troubleshooting C/C++ code, clarifying core concepts, and answering real-time questions
- Created supplemental reference materials and walkthroughs for complex data structure implementations

Research Assistant, Bias Lab

May 2025 – December 2025

University of California, Irvine

Irvine, CA

- Built ML pipelines in PyTorch for amino acid sequence detection, training Spiking Neural Network architectures on biological datasets
- Developed data visualization and analysis tooling using NumPy and Matplotlib to evaluate model performance across perception and attention tasks

Research Software Engineer Intern

June 2022 – September 2022

Lumiere Education

Remote

- Developed and fine-tuned ChatGPT-3 model using PyTorch, Python, and the LangChain framework to enhance the retrieval and curation of over 20,000 academic papers from Kaggle's ArXiv dataset into a readable JSON
- Analyzed GPT-3 output using readability metrics (e.g., Flesch, Cattell) to measure and validate improvements in identifying research papers with simplified vocabulary for novice users with 99.45% accuracy

PROJECTS

Fret Flow

2026

Automatic Sheet Music Generator for Guitar

- Built a program that turns any guitar recording into a readable music sheet using Python and Spotify's Basic Pitch neural network for audio-to-MIDI conversion with 92% accuracy
- Deployed the processing pipeline with AWS Lambda, Docker, and AWS S3, with a Node.js/TypeScript/Express REST API backend

Minecraft Iron Ingot Agent

2026

AI Minecraft Agent

- Trained a reinforcement learning agent to autonomously obtain iron ingots in Minecraft using Python and OpenAI's VPT pretrained model fine-tuned with behavioral cloning and PPO on the MineRL v1.0 environment, achieving a 95.6% success rate across 45 episodes with an average completion of 3,937 steps
- Built a custom environment wrapper for episode termination and evaluation, using Python, PyTorch, and OpenAI Gym

iGEM (International Genetically Engineered Machine) Full Stack Sites

2021 – 2023

International Biology Competition Websites

- Developed three websites across three competitions using React, Flask, and MongoDB to showcase the team's year-long project that displayed 5+ departments
- Won Gold, Silver, and Bronze medals respectively against 100+ other schools

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, C/C++, HTML/CSS, SQL, Bash

Frameworks & Libraries: React.js, Node.js, Next.js, SQLAlchemy, pandas, scikit-learn, NumPy, PyTorch, Matplotlib

Data, Platforms & Databases: Git, Linux, PostgreSQL, MongoDB, AWS (S3, Lambda, App Runner, Amplify, ECR), nginx, Docker, Angular, Jenkins