Japinder Singh Narula

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Education

University of California, Berkeley 2021 - 2025
Bachelor of Science in Electrical Engineering and Computer Sciences *Berkeley, CA*

Coursework:

Computer Vision
Computational Photography
Artificial Intelligence
Machine Learning
Data Structures
Object-Oriented Programming
Algorithms
Robotic Manipulation
Robotic Interaction
Nanorobotics
Computer Architecture
Machine Structures
Circuit Design

Technical Skills

Languages
Python; Java; Kotlin; C++; C; Go; JavaScript; TypeScript; Rust; SQL

Frameworks / Libraries
Spring Boot; FastAPI; PyTorch; scikit-learn; Keras; OpenCV; music21; React; Next.js; Remix; Tailwind CSS

Tools / Platforms
Gradle; Docker; Git; ROS; CAD; Apps Script

Databases & Systems
MongoDB; PostgreSQL; RISC-V Architecture

Experience

Data Scientist October 2025 - Present
Calectra *Oakland, CA*
- Built automated data workflows and visual analyses of large industry datasets to guide strategic and business development initiatives

Software Engineer May 2024 - August 2024
LegalZoom *Mountain View, CA*
- Architected and deployed containerized Spring Boot REST API services on cloud infrastructure, improving data accuracy and backend scalability while reducing customer support calls by over 15%
- Enhanced database schemas and designed resilient data flows across PostgreSQL services handling thousands of transactions daily
- Collaborated with cross-functional teams to integrate backend services into production-grade UI workflows, improving reliability and observability of distributed components

Software Engineer June 2022 - Aug. 2022
Pienomial *Remote*
- Developed Merkle tree data structures in Go and Rust with MongoDB integration, enhancing backend security and integrity verification for distributed systems, while also automating workflows with secure scripts that reduced manual maintenance effort by 30%

Data Structures Course Staff January 2023 - May 2023
University of California, Berkeley *Berkeley, CA*
- Supported 50+ students in mastering core data structures and algorithms, providing 1:1 guidance and debugging assistance that improved lab completion rates by 25%

Projects

Machine Learning: Nearest Neighbours for Geo-Location | *Python, PyTorch*
- Implemented k-NN regression using CLIP embeddings in PyTorch to predict image geolocations, achieving the lowest Mean Displacement Error (MDE) with optimal k value
- Optimized model accuracy using grid-search, and visualized PCA results to analyze spatial trends in the dataset

LSTM Classical Music Generator | *Python, TensorFlow, Keras, music21, NumPy*
- Implemented LSTM-based sequence model to generate classical-style MIDI compositions, trained on preprocessed symbolic music data
- Engineered a full data pipeline for MIDI parsing, tokenization, sequence windowing, model training, and MIDI synthesis using `music21` and TensorFlow/Keras

Encrypted File Sharing System | *Golang*
- Designed a distributed secure file-sharing system using RSA encryption in Go for authentication and data exchange
- Authored a detailed design document outlining struct definitions and function workflows to ensure functional and security compliance

UCPD Community Service Organization Program Scheduler | *Python*
- Built an automated scheduling program that handled data collection and shift assignments while accounting for job-specific constraints
- Implemented matching algorithm that improved scheduling accuracy and streamlined workforce management

Certifications

DeepLearning.AI TensorFlow Developer
Coursera
- Trained and deployed a TensorFlow/Keras CNN achieving 90%+ accuracy on Fashion-MNIST with 60,000+ training images, applying transfer learning with pretrained models and efficient tf.data pipelines
- Trained LSTM-based models for text generation and time-series forecasting, demonstrating applied expertise in RNN architectures and deep learning optimization