

Japinder Singh Narula

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EDUCATION

University of California, Berkeley	<i>Bachelor of Science in Electrical Engineering and Computer Sciences</i>	2021 - 2025
		Berkeley, CA
Coursework:		
Computer Vision	Data Structures	Robotic Manipulation
Computational Photography	Object-Oriented Programming	Robotic Interaction
Artificial Intelligence	Algorithms	Nanorobotics
Machine Learning		

TECHNICAL SKILLS

Languages	Frameworks / Libraries	Tools / Platforms	Databases & Systems
Python; Java; Kotlin; C++; C; Go; JavaScript; TypeScript	Spring Boot; FastAPI; PyTorch; scikit-learn; Keras; OpenCV; music21; React; Next.js; Remix; Tailwind CSS	Gradle; Docker; Git; Apps Script; ROS; CAD	MongoDB; PostgreSQL; SQL; RISC-V

EXPERIENCE

Software Engineer <i>LegalZoom</i>	May 2024 - August 2024 Mountain View, CA
<ul style="list-style-type: none">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 dailyCollaborated with cross-functional teams to integrate backend services into production-grade UI workflows, improving reliability and observability of distributed components	
Software Engineer <i>Pienomial</i>	June 2022 - Aug. 2022 Remote
<ul style="list-style-type: none">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 <i>University of California, Berkeley</i>	January 2023 - May 2023 Berkeley, CA
<ul style="list-style-type: none">Supported 50+ students in mastering core data structures and algorithms, providing 1:1 guidance and debugging assistance that improved lab completion rates by 25%	
Community Service Officer <i>University of California Police Department</i>	November 2022 - June 2024 Berkeley, CA
<ul style="list-style-type: none">Engineered shift automation system in Apps Script, reducing scheduling time by 30%; improving efficiency for 80+ department staff	

PROJECTS

Machine Learning: Nearest Neighbours for Geo-Location <i>Python, PyTorch</i>	
<ul style="list-style-type: none">Implemented k-NN regression using CLIP embeddings in PyTorch to predict image geolocations, achieving the lowest Mean Displacement Error (MDE) with optimal k valueOptimized model accuracy using grid-search, and visualized PCA results to analyze spatial trends in the dataset	
LSTM Classical Music Generator <i>Python, TensorFlow, Keras, music21, NumPy</i>	
<ul style="list-style-type: none">Implemented LSTM-based sequence model to generate classical-style MIDI compositions, trained on preprocessed symbolic music dataEngineered a full data pipeline for MIDI parsing, tokenization, sequence windowing, model training, and MIDI synthesis using <code>music21</code> and TensorFlow/Keras	
Encrypted File Sharing System <i>Golang</i>	
<ul style="list-style-type: none">Designed a distributed secure file-sharing system using RSA encryption in Go for authentication and data exchangeAuthored a detailed design document outlining struct definitions and function workflows to ensure functional and security compliance	
UCPD Community Service Organization Program Scheduler <i>Python</i>	
<ul style="list-style-type: none">Built an automated scheduling program that handled data collection and shift assignments while accounting for job-specific constraintsImplemented matching algorithm that improved scheduling accuracy and streamlined workforce management	

CERTIFICATIONS

DeepLearning.AI TensorFlow Developer <i>Coursera</i>	
<ul style="list-style-type: none">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 pipelinesTrained LSTM-based models for text generation and time-series forecasting, demonstrating applied expertise in RNN architectures and deep learning optimization	