

Karanbir Singh

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SUMMARY

Software engineer and engineering manager with 6+ years of experience across AI, distributed systems, and microservices for fintech, auto, and other industries. Collaborate with engineering, data science, and product teams to build roadmaps and implement new client features that grow revenue and improve client retention. Build new teams and mentor technical professionals on leadership and domain expertise to scale department capabilities. Seeking a software engineering role to lead AI/ML initiatives and build production grade products for a company dedicated to advancing real-world AI capabilities.

TECHNICAL SKILLS:

Programming Languages: Python, Java, Kotlin, Typescript, SQL

Technologies & Tools: AWS Services (SQS, S3, EC2, Kinesis, EKS, CDK, IAM, Lambda, Sagemaker), Jenkins, GitHub, JIRA, Design Patterns, Miro, Kubernetes, PyCharm, Jupyter Notebook, APIs, Docker, Google Cloud, Hugging Face

Frameworks & Libraries: PyTorch, TensorFlow, Numpy, Pandas, Scikit-learn, Matplotlib, Flask, React, Node.js, Express.js

Databases: DynamoDB, AWS RDS, MongoDB, Apache CouchDB, Riak, MySQL, SQLite

EXPERIENCE

Salesforce, San Francisco, CA

June 2024 – Present

Senior Software Engineer

- Develop and maintain health related services of first party infrastructure to enable Salesforce service be available all the time
- Collaborate with Data Science team on machine learning models to build AI powered infrastructure related health signals

TrueML, San Francisco, CA

May 2020 – June 2024

Engineering Manager

Oct 2023 – June 2024

- Lead capacity planning and build 12-month roadmap for Retain Heartbeat (communication management decision engine), expanding team from 1 to 3 and improving feature development velocity by 100%
- Collaborate with Data Science team on machine learning models, decreasing client marketing expenses by 50% and increasing client click through rates by 100%-150%
- Partner with Data Science, Product Management, and Platform teams on company roadmap, delivering 100% of features and maintenance (campaign tools, migration within Q1 timelines)
- Spearhead development of inhouse A/B testing framework using Open Source platform (GrowthBook), eliminating use of 3rd party platform (\$30K+ annual savings) and preventing corruption of model data while increasing features

Tech Lead & Staff Software Engineer

Oct 2021 – Oct 2023

- Developed and maintained Retain Heartbeat to support multiple communication channels (Email, SMS, Voicemail), resulting in 10+ additional client integrations, growing monthly revenue by 5X, and achieving 90%+ client retention rate
- Collaborated with product team on roadmap and spearheaded multiple team projects to enhance Retain platform experience, scaling processing capabilities by 100X while achieving 99.99% uptime
- Mentored 5 senior/junior engineers and data scientists within data group to enhance domain expertise and architecture skills, improving developer productivity by 20% and contributing to 2 promotions
- Architected and deployed Infrastructure as code using AWS CDK and integration test suite for Retain Heartbeat, removing DevOps and QA dependencies and decreasing feature delivery timelines by 3+ weeks

Senior Software Engineer

May 2020 – Oct 2021

- Architected, developed, and deployed decision engine module 'Retain Heartbeat' from scratch and deployed machine learning models into production, securing 4 enterprise users of product through cross sells and breaking six figures in monthly revenue for Retain product line
- Standardized onboarding process for Fortune 100 enterprise customers (banks, utilities, law firms, telecom, fintech), decreasing client onboarding from 4 weeks to 4 days

Lucid Motors, Newark, CA

Nov 2019 – May 2020

Senior Android Software Engineer

- Designed and developed radio app module for Lucid Air, enabling radio functionality for Lucid vehicles
- Customized Android Automotive and first person in company to port features directly to Lucid vehicle infotainment system, enabling application development on the actual system (prior development on Google Pixel)

Poynt, Palo Alto, CA

Feb 2018 – Nov 2019

Software Engineer

- Presented technical features of Poynt devices accepting AliPay in collaboration with executive team to C-suite of AliPay, advancing partnerships with AliPay and leading to \$100M in investment for Poynt
- Designed, developed, and maintained framework of PoyntOS and built integrations internal/third-party accessories, leading to compatibility with printers, cash drawers, scanners, and other devices

PROJECTS

CNN Projects (Convolutional Neural Networks)

- Detected objects in car detection datasets to understand YOLO model (Python, TensorFlow)
- Implemented neural style transfer using VGG19 model (Python, TensorFlow)
- Build UNet model for image segmentation using self-driving car datasets (Python, TensorFlow)

NLP Projects (Natural Language Processing)

- Developed MediumLM, ChatGPT Clone, a character level language model from scratch to understand transformers architecture (pre trained only with 100K Medium articles dataset) (Python, PyTorch, and Jupyter Notebook)
- Built DateDetector, Neural Machine Translation (NMT) model, to translate human-readable dates into machine-readable dates to understand Bidirectional LSTM with attention architecture (Python, TensorFlow, and Jupyter Notebook)

EDUCATION

San Jose State University, San Jose, CA

Master of Science in Computer Software Engineering

ObservVR Poster Presentation Representing University at LAM Research

Punjab Technical University, Punjab, India

Bachelor of Technology in Computer Science & Engineering

Punjab Technical University Award for Young Engineers Innovators

AWARDS, SKILLS & INTERESTS

Awards: Silicon Valley Innovation Challenge Winner (2016) for ObservVR

Certifications: Deep Learning (Stanford via Coursera)

Leadership: Coaching, Mentoring, Onboarding, Performance Management, Recruiting Process, Talent Acquisition, Team Leadership, Technical Leadership

Core Competencies: Big Data, Cloud Computing, Containerization, Custom Integrations, Data Engineering, Data Pipelines, Data Services, Distributed Systems, Microservices, Scripting Languages, Software Architecture, SaaS, Tokenization, Customer Requirements, Technology Initiatives, Problem Solving, Research, Business Requirements, Compliance, PCI, Event-driven architecture

Interests: Landscape Photography, Gardening, Hiking