Harsh Seth

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Education

Master of Science in Computer Science, University of Massachusetts Amherst — May 2025
Coursework: Reinforcement Learning, Intelligent Visual Computing, Adv. NLP, Artificial Intelligence — *GPA: 3.95*

Bachelor of Technology in Computer Science and Engineering, VIT University — May 2020
Coursework: Image Processing, Content Based Image and Video Retrieval, Machine Learning, Applied Linear Algebra, Discrete Mathematics and Graph Theory, Web Mining, Software Engineering — *GPA: 3.55*

Industry Experience

PayPal

Software Engineer 2 — Apr 2022 – Jul 2023

- Designed solutions for and implemented E2E a major redesign of PayPal's Billing Agreement Experience which handles **14% of core PayPal TPV across 200 markets globally**
- Proposed and wrote efficient low-level solutions in TypeScript and Java to power **highly distributed, low latency** web services serving **delightful, responsive, and accessible** world-class experiences
- Planned and managed work for a team of 8 engineers as **Scrum Master,** at mean **say-do ratio of 92%**
- Trained several cohorts of SDE 1s in Web Development fundamentals and interviewed 35 candidates for various Engineering roles across the Payments, Data Sciences, Commerce Platforms domains
- Received **Key Talent Award** in the 2023 rewards cycle, and was 3-time winner of a Spot Award

Software Engineer 1 — Aug 2020 – Mar 2022

- Conceived and developed a zero-dependency decision engine, reducing **feature development time by 65%** and **total LOC by 80%** on average for onboarded use cases
- Delivered a highly available, distributed cross domain MQ platform powered capable of **processing over 1 billion messages/day** to enable a whole host of new customer facing features across products
- Delivered solutions for various engineering improvements and legacy migration initiatives incorporating several **first-at-PayPal** techniques such as Strangler modules and FlowKeeper
- Organized **monthly brownbag sessions** and annual hackathons for Commerce Services Engineering

Intern — Jan 2020 – Jul 2020

- Set up a natural language processing pipeline for **automated root cause bucketing and analysis** on customer support call transcripts to better inform Engineering and Operations about emerging issues
- Developed a **natural language aware search engine** and an in-house web crawler with Luscene and beautifulsoup in Python to power a site-wide search with **contextual quick actions**

Intern — May 2019 – Jul 2019

- Delivered solutions for various web experience feature initiatives for Resolution Center Experiences
- **Migrated existing functionality** from legacy RESTful monolithic services to **GraphQL microservices**

VIT University

Software Developer — Mar 2017 – May 2020

- Designed and developed core modules for an in-house programming examinations portal (V-PROPEL) for VIT University written on django, which was **scaled to over 10,000 users across 4 campuses**

Research Experience

Design and Development of an Intelligent On-line Teaching-Learning Portal for Enhanced Problem-Solving & Programming Skills — *[PI: Dr Janaki Meena; supported by a MeitY, Government of India grant of ₹15.9M]*

- Investigated feasibility of proposed features for an online programming platform to **enable computer science education** for high schools and universities in underserved regions

Selected Projects

AI Agent for Warehouses with Movable Obstacles — *[Skills: Reinforcement Learning, Simulation, Modelling]*

- Applied Reinforcement Learning with **Eligibility Traces** and other techniques to train an agent to navigate a 2D grid with movable obstacles and efficiently reach a target in **under 200 training iterations**

MindsEye: A n-View Grid to SDF Generator — *[Skills: 3D Reconstruction, 2D Image Generation, Generative AI]*

- Designed, trained, and evaluated a **novel architecture** based off OpenLRM which accepts a grid of n views of **unseen objects** to generate a Signed Distance Field (SDF) of corresponding 3D models

Generative QA on Traditionally Extractive Tasks — *[Skills: NLP, Prompt Engineering, GCP, Generative Text]*

- Finetuned several LLMs (with SFT and otherwise) with **qLORA** to generate answers for the RACE dataset, a benchmark extractive QA dataset, evaluating performance with traditional and **automated means**

Skills

Programming Languages: Python, Java, JavaScript, C, C++, SCSS, Solidity
Libraries/Frameworks: PyTorch, Transformers, ReactJS, GraphQL, ExpressJS, MPI
Tools/Platforms: Hugging Face, Docker, Git, AMQ, Kafka, Kibana, SignalFX, Jira, Figma, tmux, GCP, Unity