

Pranav Nutalapati

Berkeley, CA | preyneyv@berkeley.edu | github.com/preyneyv | linkedin.com/in/preyneyv | preyneyv.dev

EDUCATION

University of California, Berkeley

AUG 2025 – MAY 2026

FUNG EXCELLENCE SCHOLAR

Master of Engineering, Computer Science — Visual Computing and Computer Graphics

Courses: Deep Reinforcement Learning | Computer Vision | Agentic AI | VR & Immersive Computing

Georgia Institute of Technology

AUG 2020 – DEC 2022

HIGHEST HONORS

Bachelor of Science, Computer Science

Courses: Introduction to Artificial Intelligence | Machine Learning | Game AI | Computer Graphics

EXPERIENCE

McKinsey & Company

MAR 2023 – JUN 2025

Senior Software Engineer

Raleigh, NC

Promoted twice ahead of standard timeline for technical depth, client-facing ownership, and cross-functional delivery.

- **Supply Chain Optimization Platform** (React, Redux, NestJS, Postgres, AWS)
Owned full-stack planning workflows end-to-end for a vehicle manufacturer across a multi-stage pipeline with role-based access control for different operator tiers, reducing planning time by 70%. Optimized client-side calculation logic for a 5x React rendering speedup, built a custom interactive datagrid library used across the platform, coordinated API contracts across data science and software teams, and prototyped an LLM-powered planning assistant.
- **Agentic Contract Parsing** (Python, AutoGen, LangGraph, .NET)
Designed and shipped a multi-agent LLM pipeline for end-to-end extraction, classification, and validation of contracts and invoices, converting unstructured documents into structured terms to automatically surface leakage between expected and actual profits.
- **Distributed Test Orchestration for MedTech** (Async Python, Selenium, OpenCV, Tesseract, RPC, Docker)
Created a bespoke end-to-end test suite synchronizing state across multiple medical device VMs. Implemented a custom TCP-based RPC protocol in an async orchestrator/worker pattern and used computer vision to validate software behavior.
- **Field Service Schedule Optimization** (React, Express, Postgres, Azure)
Created a scheduling optimization solution for utility field workers, including a planner-facing full-stack dashboard for manual schedule adjustment, traceability, and plan version control.

Brawlhalla Esports, Blue Mammoth Games

OCT 2021 – FEB 2023

Software Developer, Part Time

Atlanta, GA

- **Stream Toolkit** (React, Node.js, WebSockets, GraphQL, AWS)
Architected a resilient multi-user real-time broadcast system ingesting tournament data from start.gg, internal APIs, and game spectator clients, consolidating state for downstream overlays; released an open-source community edition used by tournament organizers.
- **Website Redesign & Twitch Extension** (Figma, SvelteKit, React, AWS)
Redesigned brawlhalla.com (Figma, headless WordPress CMS + SvelteKit frontend) serving 25k daily pageviews. Built a Twitch Extension overlaying live tournament statistics and viewer votes to 30k concurrent viewers.

PROJECTS

- **ARCaptcha: Daily ARC-AGI-3 Browser Puzzle** (Python, Flask, Socket.IO, React, TypeScript, Docker)
Built a live daily puzzle wrapping ARC-AGI-3 environments as browser-playable challenges, with replay-based client state recovery over in-memory Flask/Socket.IO sessions and a React/TypeScript frontend.
- **use-prompt: Compile-Time Code Generation for Next.js** (Rust, SWC, TypeScript, Next.js, OpenAI API)
Built an SWC compiler plugin in Rust that parses and transforms custom "use prompt" directives directly on TypeScript ASTs at build time, emitting implementations generated by GPT-4o using the OpenAI API.
- **Monocular Video-to-Map Pipeline for Work-Zone Mapping** (Python, PyTorch, OpenCV, YOLO, OCR, SuperPoint, LightGlue)
Built a GPS-free pipeline to generate machine-readable work-zone maps from monocular dashcam video, enabling crowd-sourced infrastructure mapping without new hardware. Combined depth estimation, SuperPoint/LightGlue matching, visual odometry/SLAM, YOLO detection, OCR, and geo-anchoring to recover structured map evidence from road video.

Skills	Python, TypeScript, Rust, React, Node.js, Flask, PyTorch, Computer Vision, WebSockets, GraphQL, Docker, AWS, Postgres
Certifications	AWS Certified Solutions Architect – Associate
Awards	Intl. Silver Medal in Web Technologies at WorldSkills Kazan