

Pranav Kumar Soma

SOFTWARE ENGINEER

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EDUCATION

M.S. Computer Science, UC San Diego

Dec 2026 (expected)

GPA 4.00 • Jacobs School of Engineering

B.S. Computer Science, UC San Diego

Dec 2025

GPA 3.96 • Cum Laude, CSE Department Honors, Provost Honors (all quarters)

Coursework: Algorithms, Operating Systems, Theory of Computation, Software Engineering, Data Systems for ML, Search & Optimization, Computer Vision, Statistical NLP, Discrete/Convex Optimization.

EXPERIENCE

Software Engineer Intern | ServiceNow

Jun–Sep 2025

AI Voice Agents, IT Service Management • **Technical Skills Award** · top of 800+ interns

- Migrated enterprise AI Voice Agents platform from deprecating AWS Lex V1 to V2 ahead of schedule; shipped to production, validated live with Disney+
- Re-architected NLU pipeline onto higher-capacity models across 8 intents · **75% lower response latency**
- Built dynamic post-incident “wrap-up” modal (React-style UI + Express backend routing), shipped to production. **Return offer received**

Software Engineer & Agentic Systems Lead | Laboratory for Emerging Intelligence, UCSD

Apr 2025–Present

- Lead **Teradata-funded** agentic-AI platform serving 7,000+ users · custom **MCP servers** over UCSD APIs + a deterministic, fault-graceful workflow executor
- Built & shipped Python **AI Tutor** (deployed at UCSD, SDSU, Cal Poly Pomona) for **8,000 students / 8 courses**; FastAPI services, MongoDB · **64% fewer TA hours**

Software Engineer Intern (Intern Lead) | Work4Flow

May–Dec 2024

- Led 6-intern team to ship **GenAI Observer**, an LLM prompt-evaluation tool giving engineers aggregate refinement feedback; both projects approved for customer deployment
- Built ServiceNow↔Smartsheet (SPM) integration via backend queries + LLM-based categorization

Honors Thesis Researcher | UCSD CSE · Computational Redistricting

Sep 2024–Present

- Engineered end-to-end geospatial pipeline scoring U.S. redistricting plans over Census-2020 data (**158K–5.5M blocks/state**, 5–18M-row Parquet store)
- Built 3 multi-threaded generators (greedy DP + Kernighan–Lin, Sequential Monte Carlo, XGBoost + multilevel graph partitioning); Python, pymetis, GeoPandas

SELECTED PROJECTS

- **ORCA · AI Music Production** (*Best Project, SDTC: 1 of 30 from 200+; SAIRS 2025*) · full-stack app; OpenCV + neural source separation, CNN audio-to-score; **98% accuracy**. Flask, Docker, React
- **Spay.LA** (*spay.la*) · MERN fundraising & legislative platform; **raised \$75K**; led 11 developers as Engineering Manager. Firebase/Google auth
- **Union Station Homeless Services** · React listing platform w/ RegEx validation & state machines, SheetJS/MongoDB bulk exports for LA’s sole housing provider

LEADERSHIP

Co-Founder & President, Real World AI Network (*2026–Present*) · founded **7,000+ student** federation across UCSD’s engineering, data-science & business schools driving AI research & entrepreneurship.

Founding Board Member & VP External Affairs, University AI Alliance · built nation’s largest student-led frontier-tech network (MIT, Stanford, Caltech, Cornell); backed by a16z speedrun, Bain Capital Ventures, Techstars.

President, CSE Society @ UCSD (100+ members) · **Founder & President**, E/Acc Research Group · **Awards:** YC Startup School 2026, National Merit Finalist, USACO Silver.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, C++, C, Swift, Kotlin, SQL, ARM-32 Assembly, HTML/CSS, Bash

Web & Full-Stack: React, Node.js, Express, FastAPI, Flask, Django & Django REST, MERN, React Spring, SheetJS, Firebase, Google OAuth, REST APIs

Systems, Cloud & Data: AWS (Lex, Lambda, CloudFormation), Docker, Git/GitHub, Maven, Gradle, Linux; MongoDB, PostgreSQL, MySQL; NumPy, Pandas, GeoPandas, parallel & multi-threaded computing, system design, finite state machines

ML, Enterprise & Tools: PyTorch, TensorFlow, scikit-learn, XGBoost, OpenCV; LLM fine-tuning (LoRA, SFT, RLHF), RAG & GraphRAG, LLM agents & MCP, NLP/NLU, computer vision; ServiceNow (ITSM, CSM, SPM), UI Builder, Smartsheet, Windsurf, Android Studio, Xcode, Jupyter, JUnit, RegEx, Agile/Scrum, ROS, WPILib, LaTeX, Microsoft Office, Google Workspace