

PIUSH PAUL

🌐 piushpaul.dev | 🐙 [piush-terminalwitchcraft](https://github.com/piush-terminalwitchcraft) | 💻 [piush-paul](https://piush-paul.github.io) | ✉ piushpau@usc.edu | ☎ +1 (213) 268-1235 | Los Angeles, CA

EDUCATION

University of Southern California
Master of Science in Computer Science

Aug 2026 – May 2028 (Expected)
Los Angeles, CA, USA

- **Coursework:** Analysis of Algorithms, Database Management

Thadomal Shahani Engineering College, University of Mumbai
Bachelor of Engineering in Computer Engineering (CGPA: 9.45 / 10.0)

Dec 2020 – May 2024
Mumbai, India

- **Coursework:** Operating System, Computer Networks, Database Management, Distributed Computing, Machine Learning
- **Honors:** Inducted into the **TSEC Hall of Fame** (Magna Cum Laude equivalent) for all-round academic excellence and leadership.

EXPERIENCE

Deutsche Bank
Software Engineer (Analyst)

Jul 2024 – Aug 2026
Pune, India

- Spearheaded the stabilization of a global front-office high touch option trading platform, safeguarding pricing accuracy for 1,000+ daily option bookings representing \$5B+ in notional value via a multithreaded C# .NET WinForms client and distributed microservices.
- Overhauled state synchronization across the Sales-to-Trader RFQ lifecycle, resolving complex calculation anomalies and eliminating race conditions to prevent duplicate trade executions across 5,000+ daily requests.
- Established a unified build-and-deployment process for 6 microservices, automating code signing and infrastructure configuration to ensure zero-downtime releases utilizing TeamCity, ArgoCD, and Ansible.
- Initiated internal developer productivity tools, deploying an AI-agentic bot for automated Pull Request reviews and building a Python workflow for QA library upgrades that slashed manual versioning time by 99% (from 5 hours to under 3 minutes).
- Developed and maintained low-latency C++ market connectivity infrastructure (SDS, QES) for Deutsche Bank's e-FX business, a top-5 global FX liquidity provider, processing 500M+ messages/day with sub-50 μ s median internal latency.
- Reduced QES order-path p99 latency by $\sim 30\%$ ($\approx 120 \mu$ s to $\approx 85 \mu$ s) by offloading MiFID II reporting broadcasts from the critical path to asynchronous lock-free SPSC queues via a custom polling timer.
- Built the Static Data Service (SDS) to distribute 100K+ instruments across global exchanges, ensuring 99.99% uptime for 10+ downstream components and cutting startup load time from ~ 90 s to under 20s.
- Integrated Eurex (ETI) and NSE market connectivity, deploying C++ feed handlers capable of sustaining high-throughput processing of 200K+ messages/sec during peak trading hours.
- Hardened critical low-latency execution paths by engineering 50+ targeted unit and integration tests (GTest, Pytest, Boost.Test), reaching $\sim 90\%$ coverage on core trading modules and lowering edge-case regressions by 25%.

Staywise
Software Engineering Intern

Feb 2023 – May 2023
Mumbai, India

- Designed a scalable, serverless roommate-matching platform for students from scratch, optimizing cloud resource allocation to minimize compute overhead and delivered a fully functional cross-platform application within a 90-day sprint, leveraging Flutter, Firebase, and state-management via Riverpod.

PROJECTS

ZenithEngine | C++, CMake, DPDK

Jul 2026 – Present

- Architecting a low-latency cryptocurrency HFT engine with a zero-allocation feed handler, L2 order book, and execution engine.
- Optimized critical path latency and inter-thread communication by implementing bounded lock-free MPSC ring buffers, core pinning (thread affinity), cache-line alignment, and branch prediction.
- Engineered a WebSocket networking layer via DPDK kernel bypass, routing packets to userspace for sub-microsecond latency.

KrishniBodha | Agentic AI, Google ADK, Gemini, Gemma, Dart, Python

Jul 2025

- Architecting a hybrid AI mobile app for the $\sim 70\%$ of rural farmers lacking reliable connectivity, integrating on-device Gemma for offline multilingual voice Q&A with Gemini on Vertex AI for multimodal crop disease diagnosis.
- Engineered Python telemetry pipelines to analyze Sentinel-2 satellite data across 6 spectral indices, delivering crop yield predictions to guide harvest planning.

ACHIEVEMENTS

- **1st Runner up at Google Agentic AI Hackathon 2025:** A national level hackathon organized by **Google**, holding the **Guinness World Record** for most participants in an agentic AI hackathon.
- **Winner of Smart India Hackathon 2022:** A national level hackathon organized by the **Government of India**.
- **International Collegiate Programming Contest (ICPC) Regionalist:** Placed **82nd** in the Mathura-Kanpur regional, qualifying by ranking 1st among university teams nationally.
- **Competitive Programming:** Solved more than **350 problems** and achieved **Specialist** rating (max 1423) on Codeforces.

TECHNICAL SKILLS

- **Programming Languages:** C++, Java, Python, C, C#, Dart, Bash, Rust, Javascript, Typescript, HTML
- **Frameworks:** CMake, Boost, React, NextJS, NodeJS, Pytest, Flutter, LangChain, Numpy, Pandas, Pytorch
- **Tools and Platforms:** Git, GitHub, Bitbucket, Linux, TeamCity, ArgoCD, Ansible, Vertex AI, GCP, Docker, Firebase
- **Other Skills:** Agile Methodology, Project Management, Product Management, Leadership

LEADERSHIP & EXTRACURRICULARS

Co-founder, TSEC Mashup

June 2023

- Identified the lack of guidance about coding interviews faced by job and internship seekers and launched 6 weekly Codeforces contests for 200+ participants, mentoring them with targeted algorithmic problem-solving guidance to overcome common technical interview hurdles.