

VEDANT PANCHAL

<https://github.com/vedant11>

@ vedant.pan@outlook.com

in <https://www.linkedin.com/in/vedant-panchal/>

+91-7572890220

EDUCATION

Indian Institute of Technology, Roorkee

2018 - 2022 | Uttarakhand, India

Bachelor of Technology, Mechanical Engineering

WORK EXPERIENCE

SDE Freelancing, Tech Client, Dubai

Dec 2023 - Present | Remote

- Hybrid Orchestrator: Developed a unique composite of LLM-based and menu-based bots with minimized hallucinations. Customers could deploy this on their own infrastructure. Optimized latency using concurrency and inference-streaming.
- Apart from support for open-source LLMs, RAG agents, conversation abilities, Orchestrator showed excellent adherence to upserted SOPs and assigned bot persona. Modularized to use as a library with text or voice channels over REST APIs.
- Forked vocode library for custom use to achieve <2.5s perceived latency for bot-conversation over cellular calls. Used for high Customer Care traffic to assist clients' dept. Latency logs added for each of the STT, TTS, and telephony components.
- Tech Stack:** Python FastAPI, Supabase, Kong, Docker, Terraform, Kafka, Redis

Software Developer, MathWorks

Jun 2022 - Dec 2023 | Bengaluru

- Systems Composer: Added viewing capabilities in Feature Editor application. Internally, synchronized events with semantic data-models through MVVM architecture. This product is widely used by clients to model Software/Systems Architecture to manage features in variants of automobiles. **Tech Stack:** C++, Boost, and internal frameworks for C++
- MATLAB Coder: Added support to generate High Level Synthesis System C compliant. This was a doorway to roll-out features for widely used MATLAB Coder compiler in the chip design industry. **Tech Stack:** MATLAB and C++.
- Fabricated a CI pipeline and a custom Linux environment to emulate hardware. This environment could be used in the CI services we offer to clients for unit-tests and system-tests for their automobile AUOTSAR applications. This feature is leveraged by customers for workflow across several hardware types. **Tech Stack:** AWS CDK and EKS, Linux, and Yocto.
- Developed and managed services in Go that processed GBs of customer artifacts to generate test-reports. Maintained a service mesh of these micro-services to simplify their communication interface. Used by customers that integrate MATLAB with other CI tools for automated testing. **Tech Stack:** Go, GraphQL, K8s, Terraform, Prometheus, and Istio.
- Upgraded CMake build system to use binary libraries from external projects on Git to accelerate the open-source C++ project for MATLAB-Apache Arrow interoperability. **Tech Stack:** CMake and Linux-tools for working with 'so' like 'ldd'
- Packaged a plugin to generate server and client SDK from an OpenAPI spec. Added support to generate docs. This effort helped to later adopt design-led development throughout many teams. **Tech Stack:** Maven, Go, and OpenAPI.

SDE Intern, Explorin.io, Chandigarh

Oct 2020 - Jun 2021 | Remote

- Developed a platform for time-bound tasks, admin-configurable curriculum, and assignment checker. Tracked various aspects of a user's learning to provide well-detailed leader-board and progress analytics. Incorporated a pipeline to process platform metrics and analytics. **Tech Stack:** AWS, Django REST, Redis, Celery, ReactJS, Bootstrap, and jQuery.
- Developed a platform where students can deploy their Python or NodeJS applications. They can boot up instances of deployed applications in dev or prod environments with relevant configurations and create database users and tables for the same. **Tech Stack:** AWS, Django REST, and Apache server.

SDE Intern, UniAcco, Mumbai

Aug 2020 - Sep 2020 | Remote

- Designed and developed a web-scraping pipeline and a notification delivery system for database changes.
- Delivered a PoC AWS Connect customer support system through cellular calls. Integrated webhooks for customer status updates using middleware in the business application. **Tech Stack:** SQL, Django, bs4, Selenium, AWS Connect

SDE Intern, Shunya, Bengaluru

Apr 2020 - Jun 2020 | Remote

- Single-handedly developed a web app for video chatting with interactive storybooks, custom alerts, event scheduling, and booking. It was responsive and had robust authorized user-session management. Led and represented the team of interns. Hosted a design sprint and documented a design spec. **Tech Stack:** React, Redux, Flask, AWS, WebRTC, Jitsi

ACHIEVEMENTS

- Ranked in top 1.5 percentile in JEE-Advanced 2018.
- Ranked in top 2 percentile in UG IAPT Physics Olympiads.
- Qualified PoC (Blockchain based data-storage with RDF Schema) in Ethereum 3.0 Challenge.