Pankaj Kumar Agarwal

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EDUCATION

- **Indian Institute of Technology, Kharagpur** — WB, India
  B.Tech. + M.Tech., Computer Science and Engineering; GPA: 8.63 — *2018 - 2023*
  - Thesis: "Trustless Geospatial Data Sharing System Enforcing Accountability and Distributed Access Control"

EXPERIENCE

- **LimeChat** | Bangalore, India — *May 2022 - Jul 2022*
  - Seamlessly **integrated external APIs** and services, **enhancing internal workflows** by adhering to best practices.
  - **Developed sophisticated chatbot flows**, significantly **augmenting** its **capabilities** and user experience.
  - Conducted **load testing** using **Locust** and performed **resource usage monitoring** using **K9s** and **Grafana dashboard**, resulting in **optimized efficiency** of essential internal services.
  - **Transformed** a **stateful internal application into** a **stateless one**, utilizing a high-speed, in-memory distributed store with distributed locks for **enhanced scalability** and **crash recovery**.
  - **Established** a **robust message queue** between two internal services on the consumer end, **improving network** and **service failure handling** while **maintaining backward compatibility**.
  - Executed fundamental **architectural modifications** to the chatbot's interaction with other services, **enabling superior scalability** and **optimized resource utilization**.
  - Diligently **documented crucial changes** and potential scaling solutions in accordance with internal guidelines, **ensuring effective knowledge management** and future reference.

- **LimeChat** | Remote, India — *Dec 2021 - Mar 2022*
  - **Developed** an **automated internal configuration dashboard**, integrating provider APIs and config store for **efficient tracking** of **configurations** across multiple chatbots.
  - Implemented chatbots for diverse brands, **gaining valuable insights into internal tooling** and operations.
  - **Introduced innovative features** and enhancements to **enrich core chatbot flows** and user experience.
  - Analyzed, redesigned, and **refactored core chatbot flows** to **optimize performance and functionality**.
  - **Implemented new core chatbot flows, expanding the platform's capabilities** and adaptability to various use cases.

- **NumoUno** | Remote, India — *May 2020 - Oct 2020*
  - **Established** the **comprehensive backend infrastructure** for Numo Uno's core services using Django.
  - Implemented email authentication in compliance with **JWT standards**, and **integrated Google OAuth** and **LinkedIn OAuth** for seamless user access.
  - **Incorporated** the **chat feature** utilizing Mesibo's APIs, a third-party chat service provider, to **enhance user communication capabilities**.
  - **Configured** and **employed MongoDB** for all CRUD operations, **designing** and **implementing document structures** using **Djongo ORM**.
  - **Developed** and **integrated numerous RESTful CRUD APIs**, streamlining frontend-backend collaboration.
  - **Facilitated continuous integration** using Travis CI, and **executed continuous deployment** through a custom, self-hosted Flask-based deployment tool.
  - Crafted a Flask-based custom continuous deployment solution, **leveraging GitHub actions** and **webhooks for seamless application deployment** upon PR merges.
  - **Managed** and **configured AWS instances**, domain name records and deployment hosting to **ensure** a **reliable** and **efficient infrastructure.**

SKILLS

- **Programming**: Python, JavaScript, Go, C++, Solidity, C, HTML/CSS, Bash
- **Frameworks/Databases**: Django, Flask, Sanic, Node, Express, MongoDB, PostgreSQL, Redis, MySQL, Locust
- **Systems/Platforms**: Git, GitHub, Linux, WSL, AWS, GitLab, Hyperledger Fabric, Kafka, Nginx, Docker, Kubernetes

AWARDS AND ACHIEVEMENTS

- **Joint Entrance Exam 2018**: Rank **1432 out of 1M+ candidates** in JEE Mains and **423 out of 230k+ qualified candidates** in JEE Advanced

EXTRACURRICULAR

- **Kharagpur Open Source Society**: As an advisor for the Kharagpur Open Source Society, **led and conducted multiple beginner-level technical workshops** in 2019 and 2020. Successfully **managed and hosted the Kharagpur Winter of Code** events in both years. Currently serving as a **mentor and guide to Executive members** and junior Advisors, providing valuable insights and direction to support the growth and development of the society.