Pranav Hegde

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EDUCATION

M.S. Computer Science **Expected May 2025**
Arizona State University, Tempe, AZ 4.0/4.0

- Distributed Systems, Natural Language Processing, Data Intensive Systems for ML, Data Mining, Data Driven Optimization

B.E. Computer Science and Engineering **July 2021**
Ramaiah Institute of Technology, Bangalore, India 9.55/10

- Data Structures, Algorithms, Computer Networks, Operating Systems, DBMS, Machine Learning, Deep Learning, Web Dev

TECHNICAL SKILLS

Languages and Build Systems: Java, Python, JavaScript/Typescript, HTML/CSS, C/C++, Maven, Gradle, Jenkins, Sonatype Nexus
Libraries: Debezium, Dropwizard, Flask, PyTorch, Huggingface, Pandas, Numpy, Scikit-learn, Keras, NLTK, spaCy, Tensorflow, gRPC, JUnit, Selenium, Logback, jQuery, Rasa, BeautifulSoup, LlamaIndex, OpenCV, PyTesseract, React.js, Bootstrap
Cloud Native & Paradigms: GCP (Compute Engine, Pub/Sub, Dataflow, Cloud Storage, Cloud SQL, Cloud Functions, OAuth, Firebase), AWS (Lambda, S3, EC2, Cognito, API Gateway), Grafana, Prometheus, Docker, Kubernetes, Git, REST, Keycloak, Linux/Unix, Ansible
Data: Apache (NiFi, Beam, Kafka), PostgreSQL, MySQL, BigQuery, DynamoDB, MongoDB, Neo4j, KSQL, PromQL, Redash, Airbyte

PROFESSIONAL EXPERIENCE

CERMATI **Bangalore, India**
Senior Software Engineer **March 2021 - July 2023**

- Promoted from Intern to Software Engineer to Senior Software Engineer in 2 years.
- Engineered real-time data pipeline using Debezium and Pub/Sub for instant data integration from Postgres databases, facilitating real-time data analytics. Work also involved making bug fixes in the Debezium and Pub/Sub open-source libraries.
- Took ownership of our event tracking system, leveraging Google Pub/Sub, Apache Beam and Google Dataflow capable of ingesting more than 100 thousand events per second into BigQuery.
- Developed and maintained diverse ingestion pipelines for data ETL from more than 10 different sources such as PostgreSQL, MySQL, MongoDB, Mixpanel, TikTok etc. into Google BigQuery and Google Cloud Storage.
- Installed, configured, and expanded Apache NiFi with 2 custom extensions. Fixed bugs in the NiFi open-source repository.
- Facilitated onboarding of 4 new team members to our data platform products and services, while also providing mentorship and delegating tasks; Handled inter-team communication for onboarding various teams to our services.

SAMSUNG R&D INSTITUTE **Bangalore, India**
Samsung Prism Developer **March 2020 – August 2020**

- Trained a Random Forest Model using scikit-learn for classifying user-phone contact relationships with an accuracy of 73%.
- Created a robust Android Application using Java and Android Studio, containing the trained Model, enabling real-time and accurate relationship classification based on users' past interactions with their contacts.

GRAPHENE **Bangalore, India**
Summer Intern **June 2019 – July 2019**

- Designed and constructed a rule-based engine leveraging constituency parsing techniques using NLTK for automated extraction of product aspects, related phrases, and sentiments from online product reviews with an accuracy of 90%.
- Utilized Neo4J to craft a comprehensive knowledge graph, enhancing visualization and analysis of the extracted data.

PROJECTS

NLP Course Project, *Arizona State University* **September 2023 – December 2023**

- Investigated methods to address the inverse scaling challenges observed in Large Language Models for specific tasks.
- Implemented augmentations to the transformer architecture using Huggingface and PyTorch, directing attention heads towards crucial tokens, thereby improving LLM performance by up to 5% in certain inverse scaling tasks.

Treno, *Undergraduate Final Year* **January 2021 – July 2021**

- Designed and implemented a novel Consensus Algorithm aimed at tackling energy wastage of Blockchain systems by enabling miners to earn stake by training machine learning models, reducing energy impact by 40%.
- Showcased research at the prestigious 2021 IEEE 18th India Council International Conference (INDICON).

BelieVid, *Smart India Hackathon Winner* **July 2020 – August 2020**

- Led a team of 6 in developing a digital media verification platform using React.js frontend and Flask backend. Implemented various Machine Learning Models for Deepfake Detection, Fake Tweet/News Detection, and Image Forensic Analysis.