# 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 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, HTML/CSS, C/C++, Julia, Maven, Gradle, Jenkins
**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), Grafana, Prometheus, Docker, Kubernetes, Git, REST, Keycloak, Linux/Unix, Terraform
**Data:** Apache (Nifi, Beam, Kafka), PostgreSQL, MySQL, BigQuery, 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 libraries.
- Acted as POC for 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 to transfer data from more than 10 different sources such as PostgreSQL, MySQL, Mixpanel, Zendesk etc. into Google BigQuery and Google Cloud Storage.
- Installed, configured, and expanded Apache NiFi with 2 custom extensions, improving data flow and management.
- Facilitated onboarding of 4 new team members to our data platform products and services, while also providing mentorship and delegating tasks.

**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 and Flask and implemented various Machine Learning Models for Deepfake Detection, Fake Tweet/News Detection, and Image Forensic Analysis.