

FNU PRAKUL

+1(716) 507-6412 | prakul.us.95@gmail.com | [linkedin.com/in/prakul-95](https://www.linkedin.com/in/prakul-95) | [prakul.work](https://www.prakul.work)

PROFESSIONAL EXPERIENCE

- **Amazon.com:** Software Development Engineer, Alexa AI Jun 2022 – Feb 2024
 - Designed and implemented OEMS, an orchestration service using **Golang** and **Kubernetes**, to automate manual deployments for **Alexa A/B experiments**, increasing experiment capacity from **2-4** to **15**. The system streamlined the deployment of model configurations and experiment configurations, enabling seamless transitions between production and experimentation. Additionally, it **automated dial-ups, model allowlist/blocklist updates**, and **cleanup** processes, reducing manual intervention. To enhance usability, I developed a **React**-based frontend that interfaced with the **Kubernetes** backend, allowing the science team to focus on experiment values rather than deployment mechanics.
 - Developed and deployed **Golang** microservice **webhooks** to validate incoming requests, reducing service request failures by **30%**. Leveraged **Helm Charts**, **Cert Manager**, and **AWS EKS** to ensure scalable and secure deployments. Additionally, architected an automated **AWS EKS cluster** backup service and a comprehensive **disaster recovery (DR) plan**, using **Velero**, **S3**, **CloudFormation**, and **TypeScript CDK**, which eliminated unrecoverable infrastructure fault risks and ensured **100%** fault-free EKS upgrades.
 - Designed and implemented **ETL** architecture for ingesting data into a **big data** pipeline, leveraging **AWS Glue**, **Lambda**, **DynamoDB**, **S3**, and **Redshift** to generate training data for new **LLM** models. Improved service reliability and code health by increasing **Golang coverage** by **9%** (including **unit, integration, load, and chaos tests**) and introducing operational **canaries** using **EC2**, **S3**, and **CloudWatch**. Ensured engineering excellence through **Git**-based **CI/CD** pipelines, enhancing deployment efficiency and system robustness.
- **NTT DATA Services:** Software Developer, JLL project Aug 2017 – Mar 2019
 - Developed a **Python Flask** and **SQL**-based web app exposing APIs for business report generation, improving reporting efficiency. Monitored **55+** applications' **health checks** across the Asia region, covering **data warehousing, incident management, and change management**, utilizing **ITIL** best practices (**ITIL & C#.NET** certified). Additionally, implemented a spam detection system using **Logistic Regression**, achieving **97.3%** accuracy by leveraging ridge regression and NLP techniques such as **tokenization, stemming**, and **stopword** removal, significantly enhancing email security and data quality.
 - Optimized client report runtime from **1 hour** to **under 2 minutes** by developing efficient **Bash scripts**, improving report generation speed by **98%**. Additionally, implemented client-side **hashing** for an internal job portal using **JavaScript**, enhancing data security and performance across company-wide usage.

EDUCATION

MS in Engineering Science, Data Science | State University of New York at Buffalo – 3.78 GPA

Aug 2020 – Feb 2022

B. Tech in Electronics & Communication | Guru Gobind Singh Indraprastha University – 3.68 GPA

Aug 2013 – Jul 2017

INTERNSHIP AND FREELANCE WORK

- **EITACIES INC Software Services:** Data Science Intern, Marketplace team Sep 2021 – Jan 2022
 - Implemented Emotion Detection from Voice Audio Files using transfer learning from the **ResNet34** architecture with **93%** accuracy. Developed a voice transcriber using Mozilla DeepSpeech for streaming transcription. Collaborated on an **Agile (Scrum)** team to deliver regular updates to business stakeholders and project managers.
- **MyProductionWork:** Freelance Software Developer, Tooling team Apr 2024 – Sep 2024
 - Developed **React**-based web applications to digitize film slate workflows and streamline Amazon S3 file management, reducing manual effort by 80% and improving operational efficiency. Used **OpenCV** QR models in Python to automate file renaming and note-taking, lowering costs by eliminating the need for multiple assistants. Additionally, built a **Spring Gradle**-powered **Java REST API** backend, hosted on **Kubernetes**, to enable secure file uploads, downloads, and archiving via pre-signed URLs.

TECHNICAL SKILLS

Languages and Databases: Python, Java, C#, Go, HTML, Bootstrap, MySQL, MongoDB, Postgresql, JavaScript, Ruby, R programming.

Frameworks and Tools: Kubernetes, Docker, Helm, Git, CI/CD Pipelines, React, Vite, Flask, Django, REST APIs, Kafka, Apache Spark, ETL pipelines, SQL, NoSQL, Spring, IaC, AWS (EKS, Lambda, CloudWatch, CDK), CloudFormation, DataDog, Prometheus, Postman, NLP, Machine Learning, Model inferencing, TensorFlow, PyTorch, SDLC, Scrum, Agile, ITIL, Test Driven Development, Bash, Hadoop, HDFS, DevOps.