

## FNU PRAKUL

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### TECHNICAL SKILLS

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**Project & Delivery:** Agile (Scrum), SDLC, Sprint Planning, Stakeholder Collaboration, CI/CD, Roadmapping.

**AI/ML Tooling:** LLM Pipelines, NLP, Model Inferencing, PyTorch, TensorFlow,, Experimentation Frameworks, DevOps, HDFS.

**Cloud & Infrastructure:** IAC, AWS (EKS, Lambda, CloudWatch, S3, CDK), Kubernetes, Helm, Docker, CloudFormation, Velero.

**Languages & Frameworks:** Python, Go, Java, React, Flask, Spring, SQL, Postgres, MongoDB, DataDog, Prometheus, Bash.

**Certifications:** Google Project Management, IBM Microservices & Serverless, ITIL.

### EDUCATION

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**Master of Business Administration, Information Technology** | *Humphreys University*

Mar 2025 – present

**Master of science 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

### PROFESSIONAL EXPERIENCE

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- **Amazon.com:** Software Development Engineer, Alexa AI Jun 2022 – Feb 2024
  - Designed **Java** service for improving Alexa ML models for route optimization based on past interactions, which reduced error rates by **~1 million/week**. Coordinated cross-teams to deliver **tier-1** feature migration.
  - 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.
  - Built **Golang** microservice **webhooks** to validate incoming requests, reducing service request failure by 30%. Used Helm Charts, Cert Manager, and AWS EKS.
  - Achieved fault-free **AWS EKS** upgrades for Alexa by creating an automated cluster backup service and a comprehensive **disaster recovery** (DR) plan that eliminated unrecoverable infrastructure fault risks. Used **Velero, S3, CloudFormation**, and **TypeScript CDK**.
  - Designed and implemented **ETL** architecture to ingest data in a big data architecture using services like **glue, lambda, Dynamodb, S3** and **redshift** for creating training data for new LLM models.
  - Enforced service reliability and code health through engineering excellence. Increased test coverage by **9%** (including unit, integration, load, and chaos tests) and introduced operational canaries through **EC2, S3, and CloudWatch**. Used **Git** and **CI/CD** pipelines.
- **NTT DATA Services:** Software Developer, JLL project Aug 2017 – Mar 2019
  - Developed a web app using **Python Flask** and **SQL**, exposing APIs for generating business reports.
  - Monitored 55+ applications' health checks for the Asia region, including **data warehousing, incident management, and change management** through **ITIL**. Certified in **ITIL** and **C#.net** development.
  - Optimized client report runtime from 1hr to under 2 mins by creating efficient **bash** scripts.
  - Developed client-side hashing for an internal job portal using **JavaScript** which was used company-wide.

### INTERNSHIP, FREELANCE WORK AND PROJECTS

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- **EITACIES INC Software Services:** Data Science Intern, Marketplace team Sep 2021 – Jan 2022
  - Built an emotion detection system from voice data using **ResNet34** (93% accuracy) and a real-time transcriber with Mozilla DeepSpeech in **Python**; collaborated in an **Agile** team to deliver stakeholder-aligned features and drive voice analytics capabilities for product teams.
- **MyProductionWork:** Freelance Software Developer, Tooling team Apr 2024 – Sep 2024
  - Delivered React tooling to digitize film workflows and automate S3 file management, reducing manual effort by 80% with **OpenCV** QR-based automation and a scalable **Java/Kubernetes** backend.
- **Subtitle Generator:** Created an GUI app to transcribe audio to multilingual subtitles file(.srt) using **open AIs Whisper** model in **Python**.