Nafia Hossain

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CAREER SUMMARY

Aspiring Software Engineer with a strong foundation in Python, SQL, and scalable system design. Experienced in building robust data pipelines, optimizing data workflows, and supporting machine learning infrastructure. Background in web development and deep learning, along with hands-on experience in handling large datasets and conducting R&D on large language models (LLMs). Passionate about enabling data and AI driven solutions by ensuring reliable, efficient, and accessible data systems.

TECHNICAL SKILLS

- Languages and Frameworks: Python (Django, FastAPI, Tensorflow), C++, ReactJS, Javascript, HTML, CSS
- Databases: PostgreSQL, MySQL
- Cloud Services: S3, RDS, BigQuery
- Deep Learning: CNNs, RNNs, LLM models
- Tools: Apache Spark, Apache Iceberg, Apache Superset, REST APIs, OpenAI, CrewAI, Google Ads API, GA4, LangChain, Git, Ollama, CI/CD pipeline, Jira

PROFESSIONAL EXPERIENCE

W3 Engineers Ltd.   **July 2024 - Present**
Junior Software Engineer

- Built scalable ETL pipelines in Python with CRON job automation and anomaly detection.
- Routinely investigate data issues and validate integrity using SQL, and maintain clear documentation on findings.
- Created real-time dashboards using Apache Superset.
- Integrated Google Ads API to fetch and push conversion data.
- Implemented scripts to send conversion data along with custom conversion variables to GA4.
- Conducted R&D on image ranking (identify the best image based on criteria) using CLIP, BLIP, and OpenAI models.
- Implemented CloudFront cache clearing with Django background tasks.
- Contributed to a BI chatbot project built with FastAPI, AWS Bedrock (Claude 3.5), and Next.js.
- Implemented a CrewAI agent to convert natural language queries into SQL.

EDUCATION

B.Sc. in Computer Science and Engineering   **Jan 2019 – Mar 2024**
Khulna University of Engineering & Technology (KUET)
Higher Secondary School Certificate (HSC)   **Jul 2016 – Jul 2018**
Holy Cross College

PROJECTS AND THESIS

Developing Bengali Visual Question Answering Using Deep Learning (Thesis)
Undergrad thesis on a deep learning (CNN+BiGRU) model that can understand contents of an image and answer questions about it in Bengali. *(Python, Tesorflow)*

Content Generation Using Ollama 🔗
A Django project leveraging the Ollama gemma2 model to generate AI-driven titles, descriptions, and summaries for properties. It fetches property data from a PostgreSQL database, generates new content locally using Ollama, and updates the database via a Django custom management command. *(Django, Ollama, PostgreSQL)*

ML-based Skin Cancer Detection App
A CNN-based Android app that detects skin cancer and classifies its type as benign, malignant, or safe. *(Python, Tesorflow)*

API Project Using Go 🔗
A Beego-based backend with a vanilla JavaScript frontend that integrates with The Cat API. Key endpoints support fetching random cats, submitting votes, managing favorites, and retrieving breed data. Users can view and vote on random cat images, add them to a favorites list, and explore breed details using a dropdown menu. *(Go, JavaScript, HTML, CSS)*

Make a Square! (AI Game)
An artificially intelligent two player game where one player is human, another is an artificial agent. The game was built on the basis of Minimax algorithm with alpha beta pruning technique. *(Python)*

ArtSpace (Website) 🔗
An interactive art gallery website where artists can register an account and then post/delete their artworks. Users can also register, critique artworks, and add artworks to their favorites list. *(JavaScript, PHP, MySQL, Bootstrap, HTML, CSS)*