Md Samshad Rahman (MACS | M.Sc. Stats | B.Sc. CS)

+1 782 882 7711 | samshad.ru@gmail.com | Halifax, NS | LinkedIn: https://www.linkedin.com/in/samshadrahman/

GitHub: https://github.com/samshad

Professional summary:

Solutions Engineer (MACS | M.Sc. Stats) who treats AI as an engineering discipline, not just research. I build scalable Python backends and fine-tune LLMs on AWS Serverless infrastructure, focusing heavily on operational efficiency. Unlike many engineers, I bring a background in consultative sales, which allows me to lead client meetings, uncover root business needs, and translate complex technical tradeoffs to non-technical stakeholders.

Technical Projects & Experiences:

Dalhousie University, Halifax, Nova Scotia

AI-Powered Mindful Eating App (Persuasive Computing Lab) [January 2025 – April 2025]

- Fine-tuned two Llama 3.2 (3B) models using LoRA adapters and Unsloth to run efficiently on T4 GPUs, customizing the AI to predict personality traits and creating a system that achieved ~88% relevance in user pilot tests.
- Tackled the risk of "AI hallucinations" by hand-building a dataset of 1,500 mindful eating tips, then validating them with a registered dietitian and psychologist to guarantee the advice was safe and medically accurate.
- Architected the full end-to-end system, linking a React Native mobile interface to a FastAPI backend that handles real-time inference and lets users log meals via text or photo.
- Integrated the Symanto NLP API to analyze user writing styles and detect "Big Five" personality traits, allowing the app to automatically adjust its tone and advice strategy for each user.

Awarded Public Tenders Analysis Dashboard (Visual Analytics) [September 2024 – December 2024]

- Built a custom intelligence tool using Dash and Plotly to fix a fragmented data process, giving analysts a single view of 10 years of public spending and cutting research time by ~40%.
- Implemented BERTopic (NLP) to make sense of messy, unstructured descriptions, allowing the team to catch emerging procurement trends ~30% faster than manual reading.
- Engineered a cleaning pipeline that automatically fixes errors in raw government datasets (reducing noise by ~35%) and deployed the solution via Docker on AWS EC2.

Python Developer at Smartbytes Ltd. Bangladesh [February 2022 – September 2022]

Resume Matching with Job Descriptions

- Built a custom scraping pipeline to harvest 15,000+ resumes and job ads (growing the dataset by ~40%), then used spaCy's NER to structure the messy text into clean fields like skills and education.
- Solved the inefficiency of manual keyword searching by training a LinearSVC model (using TF-IDF vectors) that beat our Random Forest baseline by 40%, delivering 92% accuracy in matching candidates to jobs.
- Deployed the engine as an auto-scaling FastAPI microservice on AWS ECS and generated automated Swagger documentation, which drastically cut down integration friction for the 6-person frontend team.

Research Assistant, Cognitive & Behavioral Data Science Lab, UI University, Bangladesh [October 2021 – March 2022]

Eating Preference Analysis Based on Human Personality Traits

- Built a custom scraping infrastructure to harvest data from Twitter and Foursquare, utilizing rotating proxies to successfully bypass strict rate limits while writing logic to strictly adhere to robots.txt protocols.
- Wrote efficient data processing scripts using Hash Maps and Sets to instantly filter duplicates and enforce uniqueness at scale, replacing slower iterative search methods.
- Integrated spaCy and the IBM Watson API to extract "Big Five" personality traits from messy social media text; this cleaning process reduced dataset noise by ~45% and boosted the prediction model's accuracy by ~30%.

Software Engineer, Free Pixel Games Limited, Bangladesh [November 2020 – May 2021]

Unified Ad-Service Revenue Dashboard

- Designed automated ETL pipelines using Python to ingest and normalize financial data, creating a centralized warehouse that supported revenue optimization strategies.
- Solved the problem of fragmented earnings data by writing headless Python scrapers (using Selenium & BeautifulSoup) to automatically pull daily reports from 5+ ad networks like AdMob and AppLovin.
- Standardized messy, incompatible CSV formats into a clean MySQL data warehouse (handling ~50,000 new records/month), which allowed us to automate the daily reporting process and cut manual work by ~80% (from 2 hours to just 15 minutes).
- Created a Tableau dashboard for the product team to visualize revenue trends and built a custom Python alert system that immediately emails the team if eCPM drops by >10%, protecting revenue before it's lost.

Additional Experience:

Microsoft Senior Advisor, Best Buy Canada Ltd. Halifax, NS [October 2023 – Present]

- Conduct diagnostic consultations to translate customer requirements into optimal IoT and Computing solutions, achieving ~35% higher revenue-per-hour than the store average.
- Lead technical training for new associates on product specifications and sales methodologies, ensuring alignment with client technical needs.

Education:

- **Master of Applied Computer Science** [September 2023 – May 2025]
  Dalhousie University, Halifax, NS
- **Master's in Applied Statistics and Data Science** [November 2019 – April 2022]
  Jahangirnagar University, Bangladesh
- **BSc. in Computer Science and Software Engineering** [January 2015 – January 2020]
  American International University-Bangladesh

Core competencies:

Technical Skills:

Python, SQL, LLM Fine-Tuning (Llama 3, LoRA), Machine Learning, NLP (spaCy, NLTK, BERTopic), Scikit-learn, Google Cloud NLP, IBM Watson, FastAPI, Django, Flask, REST APIs, PostgreSQL, DynamoDB, MongoDB, SQLAlchemy, AWS (Lambda, EC2, API Gateway, CloudFormation, CloudWatch), Docker, Git, React.js, Tailwind CSS, Web Scraping (Selenium, BeautifulSoup), Tableau, Looker Studio.

Interpersonal Skills:

Technical Communication, Client Needs Analysis, Active Listening, Stakeholder Management, Customer Relationship Management (CRM), Mentorship & Training, Strategic Decision Making, Root Cause Analysis, Time Management & Prioritization.