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Tanushree Nepal

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Skills

Programming Languages	Python, SQL, HTML, CSS, **Git**, PowerBI
Frameworks & Libraries	Flask, Scikit-learn, XGBoost, Hugging Face Transformers
Data Science & Machine Learning	Scikit-learn, TensorFlow, Natural Language Processing (NLP), Data Visualization, **Generative AI**, Statistical Modeling & Analysis
Cloud Technologies	AWS, CloudFormation, Amazon EC2, Amazon S3, AWS Lambda, AWS IAM, Docker, **Terraform**
Web Development & API	FastAPI, **Backend Development**, React
Quantitative Skills	Econometrics, Microeconomics, Macroeconomics, VAR, Risk Modeling, Credit Risk Forecasting

Education

Msc. Data Science and AI, *University of Central Missouri, Lee Summit* — **January 2025 - December 2026**
Master of Business Administration, *Asia e University, Malaysia* — **September 2023 - August 2025**
Bachelor's in Computer Engineering, *Tribhuwan University, Nepal* — **November 2017- August 2022**

Technical Experience

Financial Data Analyst — **December 2022 — November 2024**
Genese Solution Pvt. Ltd. — *Nepal*

- Improved manual resource creation efficiency by 20% by developing a tool that uses an Anthropic **LLM** to automate AWS resource deployment via **CloudFormation** from natural language prompts.
- Leveraged Python (Scikit-learn, TensorFlow) to develop credit risk forecasting models, resulting in a 15% improvement in accuracy and reduced loan defaults for banking partners.
- Hands-on experience with popular **NLP** frameworks such as Hugging Face Transformers, alongside expertise in working with LLM models for **text analysis and sentiment detection**.
- Standardized code review processes and testing procedures for financial data analysis scripts, resulting in a 90% reduction in deployment defects and raised model accuracy across the team.
- Implemented a modern payroll system utilizing **SQL and Python**, which decreased data processing labor by 15 hours weekly; this accelerated report generation and enhanced data accuracy for audit purposes.

Financial Data Analyst Apprentice — **August 2022 — November 2022**
Code Rush — *Nepal*

- Mastered statistical modeling techniques, including Monte Carlo simulation, using **SPSS** to assess risk exposure; delivered findings to fix the three biggest causes of portfolio losses.
- Mastered diverse risk modeling techniques, including Value at Risk (VaR) and Expected Shortfall (ES), achieving a 95% confidence level in predicting potential portfolio losses as a **Data Scientist**.
- Leveraged knowledge of econometrics and **time series analysis** to build a predictive model for stock prices using VAR, achieving a 15% improvement in forecasting accuracy compared to existing models.

Projects

HRMS Integration for Payroll and Biometric Systems — **June 2024**

- Directed the transition from an existing HRMS system to a new, more flexible, and revamped system, focusing on payroll processing and **biometric data integration**.
- Revolutionized payroll processing for 200+ employees by automating payroll slip generation and tax calculations aligned with the Nepalese financial system, accelerating overall workflow efficiency by 30%.
- Engineered **RESTful APIs** with Python and FastAPI to automate employee data processing, reducing HR workload by 40% and ensuring compliance with Nepalese financial regulations.

Genese Action — **February 2024**

- Spearheaded the development effort as the lead backend developer and team lead, orchestrating the creation of resources in AWS through the innovative use of simple prompt NLP and generative AI.
- Boosted work progress by 20% through streamlining processes for resource creation and deletion in AWS, utilizing straightforward natural language commands and LLM **prompt engineering**.
- Orchestrated the development of 10+ **API endpoints** using FASTAPI, ensuring real-time data delivery across system components and supporting a 30% increase in data processing volume.
- Set up a robust, multi-tenant system architecture adhering to industry best practices, resulting in 100% data segregation and compliance with strict regulatory requirements, ensuring data privacy.

Current Expected Credit Loss (CECL) **January 2023**

- Constructed a suite of **Python**-based tools for calculating loan interest accrual and repayment schedules, reducing calculation errors by 99% and helping serve 50+ external users.
- For financial institutions, pioneered machine learning models using Python **(Scikit-learn, TensorFlow)** to predict credit risk, sharpening forecast precision by 15% and mitigating loan defaults.
- Built **quantitative risk assessment** models in Python using CECL frameworks and statistical analysis to generate actionable credit insights, reducing portfolio exposure by 10% and ensuring alignment with regulatory mandates.
- Established clear communication channels with key stakeholders, addressing 100% of client concerns promptly, and resolving conflicts, fostering trust and strengthening client relationships.
- Activated **agile methodologies** across two key client engagements, mitigating **scope creep** by 20% and fostering transparent communication channels, culminating in heightened project governance.

Cyberbullying Detection System Using Support Vector Machine **April 2022**

- Pioneered a cyberbullying detection application within a four-person team using Python and Streamlit, achieving a 92% accuracy rate in identifying online harassment instances for the final year major project.
- Deployed **CountVectorizer** and other NLP techniques to analyze a dataset of 5,000+ online forum posts, pinpointing 3 emerging cyberbullying trends and guiding preventative measures.