


BIREHAN Anteneh

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PROFESSIONAL EXPERIENCE

Machine Learning Engineer, *The Cool Company* May 2025 – Present | New York, USA

- Built a client revenue-forecasting system that predicts daily revenue using scraped domain data, Google PageSpeed metrics, WHOIS information, historical performance data, and LLM-generated features, achieving 86%+ prediction accuracy.
- Developed a LightGBM-based floor-price prediction model for an SSP, enabling to set optimal floor prices for DSPs per ad request and delivering a 7% increase in revenue.

Machine Learning Engineer, *Adludio* May 2024 – May 2025 | London, UK

- Optimized campaign ROI by implementing an automated pacing algorithm leveraging predictive modeling and real-time bid adjustments, resulting in a 16% improvement in KPIs.
- Enhanced ad performance by developing a creative scoring system using historical data and LLMs to evaluate creative variations and identify high-engagement assets, leading to a 10% lift in engagement rate and a 5% improvement in CTR and CPA.
- Accelerated creative production by creating an LLM-driven pipeline that generates on-brand ad concepts aligned with campaign objectives, reducing ideation time by 50%.
- Increased conversion rates and profit margins by developing an inventory scoring system using DCN v2 and LTR algorithms to optimize bid adjustments across publishers, formats, and devices, resulting in a 15% uplift in conversions and a 10% increase in profit margins.

AI Software Developer | Team Lead, *Eskalate S.C.* Mar 2023 – Apr 2024

Addis Ababa, Ethiopia

- Led a team of 18 to launch HakimHub, Ethiopia's first AI-driven medical recommendation platform, utilizing Jira for project planning and coordination throughout development.
- Fine-tuned a Llama 3-based chatbot that employs AI agents for personalized symptom assessments and follow-ups, integrating a database tool to query doctors and hospitals.

Software Engineer, *AiQEM Tech* Jul 2023 – Sep 2023

Addis Ababa, Ethiopia

- Developed a React-based dashboard for campaign statistics visualization by designing and implementing a dashboard using React to display key campaign metrics, such as engagement rates and trends over time.
- Collaborated with teams to enhance dashboard functionality by working with cross-functional teams to gather requirements and improve the dashboard's usability for advertisers.

Backend AI Engineer | AI Agent Developer, *Upwork* Aug 2024 – Present | Remote

- Delivered projects for 10+ clients, completing over 1,000 hours of work and earning more than \$10,000, achieving a top-rated freelancer status.
- Developed multiple production systems, including serving as the Backend & AI Engineer for a real-estate lending platform (malamafunding.com), where I built scalable REST APIs and an AI underwriter agent for loan applications.

SKILLS

- **Languages:** Python, Java, C++, JavaScript, C#, SQL, Dart, HTML/CSS, JavaScript, TypeScript
- **Technologies:** TensorFlow, PyTorch, scikit-learn, Airflow, Spark, LangChain, Huggingface, Git, Docker, AWS
- **Concepts:** ML Algorithms, Model Evaluation, Feature Engineering, Data Preprocessing, MLOps

PROJECTS

Storyboard Synthesis for Digital Advertising Feb 2024 – Feb 2024

- Created a machine learning solution that automated storyboard making, cutting production time from a week to just a few hours for digital ads, allowing quicker delivery to clients in a competitive market.
- Conducted exploratory data analysis and optimized YOLO object detection, while exploring image generation techniques to enhance storyboard quality and alignment.

Automated Prompt Engineering for RAG Systems [↗](#) Jan 2024 – Jan 2024

- Implemented automated prompt generation, evaluation data creation, and testing tools to optimize Language Models (LLMs) in RAG systems.
- Integrated vector database to establish contextual relevance, enabling efficient prompt engineering within the LangChain framework.

Email Classification with Fine-Tuned Transformers Jan 2025 – Feb 2025

- Fine-tuned BERT, RoBERTa, and DistilledBERT on 100K+ emails to achieve 93% accuracy.
- Employed quantization (FP16, INT8) and ONNX conversion for seamless mobile deployment.
- **Tech stack:** Hugging Face Transformers, PyTorch, ONNX, and quantization libraries.

Loan Risk Prediction Machine Learning Pipeline [↗](#) Sep 2024 – Sep 2024

- Built a loan risk pipeline with data ingestion, LightGBM, and FLAML (83.78% accuracy).
- Deployed with MLflow & Docker for REST predictions and CI/CD retraining.
- **Tech stack:** Python, LightGBM, FLAML, MLflow, Docker, Github Actions.

Legal Expert Retrieval-Augmented Generation (RAG) [↗](#) Feb 2024 – Feb 2024

- Created a Contract Q&A system for Lizzy AI using RAG for legal analysis.
- Achieved 87% relevance in contract analysis through semantic chunking and hybrid retrieval.
- **Tech stack:** Python, Hugging Face, Weaviate, and LangChain, Fast API, React

LinkedIn Job Automation Agent [↗](#) Nov 2025 – Nov 2025

- Built a LinkedIn job-scraping automation with filters for posting date, keywords, employment type, location, and “easy apply” roles; extracts full job details and company information.
- Developed an automated job-validation agent that compares job requirements with the candidate’s resume, checks experience years, skill match, location constraints, and company legitimacy.
- Implemented an automatic job-tracking pipeline that logs all scraped and validated jobs into Excel, along with company details, and deployed the workflow using GitHub CI/CD to run every 12 hours.

EDUCATION

BSc. in Software Engineering (AI Stream), Addis Ababa University Oct 2019 – Jun 2024
Addis Ababa, Ethiopia

OOP, Database, Software Development, Machine Learning, and NLP, Reinforcement Learning.

AI and Machine Learning Intensive Training, 10 Academy Dec 2023 – May 2024 | Santa Clara, USA

software engineering program, A2SV backed by Google Sep 2022 – Sep 2023 | Palo Alto, USA

CERTIFICATES AND AWARDS

AWS Certified Machine Learning Engineer Associate [↗](#) | Machine Learning A-Z: AI, Python [↗](#) |
Winner, DevFest 2022 Hackathon (Google Developers) [↗](#) | Machine Learning with Python [↗](#) |
The Complete Web Development [↗](#) | EDA for Machine Learning [↗](#)