Alex Massy

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GitHub LinkedIn Portfolio

Summary

B.Tech ECE student specializing in quantitative analysis and machine learning for financial markets. Proficient in Python and C++ with hands-on experience building predictive models and high-performance simulations. Seeking a Research & Analytics or Quantitative Development role.

Experience

Project Intern **Jun 2025 – Aug 2025**
Solid-State Physics Lab, DRDO *Delhi*

- Improved thermal image PSNR by designing and training a model for real-time scene-based image enhancement.
- Engineered a data pipeline for high-speed thermal imaging data from Pleora Vision sensors using the GigE Vision framework.

Web Development Intern **Jul 2024 – Aug 2024**
Nexus Info *Coimbatore*

- Enhanced user engagement by boosting UI responsiveness by 25% through optimization techniques in React.
- Developed and maintained scalable server-side logic and RESTful APIs with Node.js to support data-intensive application features.

Projects

FINTEL - News-Driven Stock Forecaster **GitHub Link**

- Developed a ML system to predict short-term stock movement by leveraging news and earnings call-based sentiment and technical analysis.
- Correctly predicted the next-day directional movement (up/down) of target stocks with 62% accuracy on a validation set of 5,000 instances.
- Stack**:** Python, Pandas, PyTorch, Azure + PostgreSQL, Streamlit, FinBERT, XGBoost.

OPENCRED - A Non Black-Box Model to Predict Creditworthiness **Github Link**

- Engineered an interpretable machine learning model to predict creditworthiness, prioritizing fairness and regulatory compliance over traditional black-box approaches.
- Utilized an XGBoost model and integrated SHAP (XAI) to provide clear, transparent explanations for each credit scoring decision.
- Stack**:** Python, SciKit-Learn, XGBoost, SHAP XAI, StreamLit, UCI German Credit Data.

VIDHIAI - AI-Powered Legal Research Assistant **GitHub Link**
Finalist - Galgotias Hackathon 2025

- Built an AI-driven tool to assist with legal case research by automating document parsing and information retrieval. Streamlined manual research process for law students and professionals.
- Stack**:** Python, GoogleGenerativeAI, Flask, spaCy, HTML/CSS/Bootstrap.

Technical Skills

- **Programming Languages:** Python, C++
- **AI & ML:** Model Training, NLP, PyTorch, Pandas, Hugging Face Transformers
- **Web Development:** React.js, Node.js, Next.js, TailwindCSS, RESTful APIs, Flask
- **Tools & Databases:** Git, Docker, Jupyter Notebook, Linux, Azure Cloud, Vercel, PostgreSQL, Supabase
- **Relevant Coursework:** Probability & Statistics, Linear Algebra, Calculus, Data Structures & Algorithms

Education

B.Tech in Electronics & Communication Engineering **2023 – 2027**
Maharaja Agrasen Institute of Technology *Delhi, India*

Certifications

- J.P. Morgan CIB Research & Analytics Virtual Experience Program (Forage, 2025).
- Financial Markets (ECON 252), Yale University (Open Yale Courses, 2025)