Achintya Jha

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EDUCATION

Arizona State University Tempe, AZ
B.S. Computer Science, B.S. Economics; ***GPA*****- 4.2**; **Dean's List** (All semesters) May 2026
Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Programming Languages, Software Engineering, Applied Regression and Data Analytics, Intermediate Microeconomics, Discrete Math, Financial Economics
College Activities: Google Developer Student Club at ASU, **Sun Devil FinTech (President)**, DevilFish Robotics

EXPERIENCE

Epigeneres Biotech Remote
Machine Learning & Data Science Intern May. 2024 – Aug. 2024

- Created & led the development of new processing pipelines which **improved processing speed by 5 times** for mass-processing of human genome files and generated readable CSV data and custom scatter plots.
- Designed a supervised machine learning model for identifying cancer-related sequences in the human genome files. The model was able to point out important sequences which eliminated searching for such sequences manually for further analysis.
- **Wrote an API** with 10 different options for analyzing genes, mapping information from various online databases and local excel files, and appending information to a final master sheet.

Nucleus Software Delhi, India
SWE Intern Jun. 2023 – Aug. 2023

- Worked on development of a Self-Service Customer Portal for General Motors Financial across Latin American countries.
- Enhanced user experience and increased **operational efficiency by 30%** by optimizing page speed and reducing dependencies**.**
- Developed a comprehensive end-to-end testing solution, ensuring the seamless functionality of the application across all interfaces. **Tools Used**: Spring Boot, Angular JS, Selenium, PL/SQL, ATDD, Agile.

Tech Mahindra Delhi, India
Machine Learning Research Intern Aug. 2021 – Nov. 2021

- Implemented intelligent bilingual chatbots using internal libraries for clients like Ford Customer Care Service
- Worked on creating a PDF-based **question answering model** using **Natural Language Processing** and machine learning. **Tools used**: Python, BERT, PyTorch, Word2Vec.

PROJECTS

Portfolio Optimizer & Risk Assessment | https://github.com/achntj/portfolio-optimizer

- Developed dynamic portfolio optimization models using **stochastic processes**, such as Monte Carlo simulations and Geometric Brownian Motion, to simulate asset price movements and optimize portfolio allocations using **Markowitz optimization** and the **Black-Litterman model**.
- Implemented strategies to dynamically adjust asset weights based on the likelihood of achieving target returns over specified holding periods. Additionally, integrated **Reinforcement Learning** to adjust portfolio allocations in response to changing market conditions, significantly improving real-time investment strategies.

Depression Detection with Machine Learning | www.sentimate.org

- Built a depression detection system from scratch using Machine Learning and Natural Language Processing with an **accuracy of 95%**. Trained additional models based on fine-tuning **Hugging Face Transformers** to my datasets.
- Created a unique database of over **1.7 million datapoints** using Beautiful Soup and Twitter API to train the model. Developed a 12-step data pre-processing pipeline which added **5 percent points to accuracy**.
- Developed a social media web-app to give users a platform to express their thoughts about mental health.
- **Tools Used:** PyTorch, Transformers, Flask, React JS, NLTK, BeautifulSoup, Firebase.

Statistical Arbitrage Model | https://github.com/achntj/statistical-arbitrage

- Developed and implemented a multi-phase **Statistical Arbitrage strategy**, utilizing **K-Means clustering** and **cointegration analysis** to identify asset pairs, enhancing profitability by targeting mean-reverting opportunities in linked assets.
- **Integrated machine learning models** to predict deviations from mean price spreads.
- **Backtested the strategy** using historical data, optimizing risk management with Value at Risk (VaR) and Conditional Value at Risk (CVaR), achieving key performance metrics including **Sharpe Ratio** and **Maximum Drawdown.**

SKILLS

Languages: Java, **C++/C**, TypeScript, JavaScript, **Python**, HTML, CSS (& Tailwind CSS), **SQL, R**
Libraries / Frameworks: **React JS**, Next.JS, **PyTorch**, Prisma ORM, Numpy, **Pandas**, NLTK, BeautifulSoup, SpringBoot
Development Skills: AI/ML, Deep Learning, UNIX, Git, Vim, ZSH, Data Structures, Algorithms, **AWS**, Google Cloud, CI/CD, Software Security, Software Development Life Cycle, Databases, Bloomberg Market Concepts