

TITUS K. CHIRCHIR

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EDUCATION

Stevens Institute of Technology, Hoboken, NJ

Master of Science in Financial Engineering, Dec 2017, GPA: 3.94

Amherst College, Amherst, MA

Bachelor of Arts in Physics, May 2013

Awards: Koenig Scholarship Award, 2012 Dalai Lama Fellowship (DLF) Award, Kenya Scholar-Athlete Program

WORK EXPERIENCE

Model Risk Manager, American Express, New York, NY

Oct 2019 to Present

- Validated and reviewed over 45 finance and credit models including credit decision models, discount revenue forecast models, reserve decision models e.g. membership rewards, pension plans, gift card reserves among others. Validations included process verification (data, conceptual soundness, assumptions, limitations), outcome analysis (performance testing, sensitivity analysis, benchmarking), ongoing monitoring, and governance.
- Built benchmarks for models in Python and SAS including XGBoost, Time Series Forecasting with Facebook Prophet, Anomaly Detection, Logistic Regression, Random Forest, Statistical Modeling with ARIMA & Exponential smoothing and Monte Carlo Simulations to test robustness of model implementation.
- Collaborated with a team of 7 to implement a short term credit scoring model during the Covid-19 pandemic to propose adjustments to existing model scores. Evaluated various model adjustments resulting from macro-economic shocks of the pandemic, and communicated to stakeholders.
- Helped maintain model inventory and model risk management framework, including governance, policy, and procedures. Worked closely with model owners and developers, regulators, and other stakeholders.

Technology Associate, Morgan Stanley, New York, NY

Mar 2018 to Oct 2019

- Designed and implemented a data analytics solution for marketing clients in Java and Python to automate targeted marketing campaigns and factsheet generation, freeing 30 hours of manual data analysis.
- Utilized agile and DevOps methodologies to manage project execution and streamline the software development lifecycle, increasing developer productivity and user satisfaction.
- Championed Test Driven Development principles within the team and collaborated with two colleagues to create a library of boiler-plate java libraries to be utilized by the entire marketing division.

Software Engineer, Goldman Sachs & Co., Jersey City, NJ & London, UK

Oct 2013 to Aug 2016

- Developed software in Java, ShellScript and AngularJS to create functionality to help mitigate the firm's market & credit risk, ensuring that accounting requirements such as FR2900, Volcker covered funds, Basel III, and Fas133 mandated by SEC, FED, IASB and FASB are met.
- Led a team of engineers in designed an Accounting Engine API to separate the calculation layer from data sourcing and aggregation layers of reporting, increasing the accuracy and speed of the calculations, and making it easier to on-board new product lines to the platform.

Project for Environmental & Agricultural Sustainability, Kabarnet, Kenya

Jun 2012 to Jun 2013

- Founded PEAS, a project dedicated to protecting the environment and alleviating poverty through sustainable and economically feasible agricultural practices in Kenya. Facilitated planting of over 67,000 seedlings.

SKILLS

- **Concepts:** Modeling, Machine Learning (XGBoost, Prophet, Random Forest, Bayesian Networks, KNN, GBM), Credit Risk, Market Risk, Stochastic Calculus, Quantitative Analysis, Monte Carlo, SR 11-7
- **Languages and Frameworks:** Python, Java, Scala, C++, C#, SAS, SQL, MySQL
- **Databases and IDEs:** Apache Spark, TensorFlow, JetBrains Suite (Pycharm, IntelliJ, CLion), Visual Studio, Tableau, Jupyter
- **Operating Systems:** Windows, Linux/Unix, Mac

LEADERSHIP, AWARDS AND EXTRACURRICULAR ACTIVITIES

- Languages: Fluent in English, Swahili and Kalenjin
- Alumni Representative, Kenya Scholar-Athlete Program; Member, GS Alumni Network
- Algorithmic Trading: Ongoing personal project to build an end-to-end strategy based algo trading platform with backtesting capabilities. Uses Python, Firebase, IEX streaming, Robinhood, Alpaca, Selenium.
- STEM Contests: 2007 Winner of Mang'u National, Maseno National and Sacho Regional Contests

OTHER WORK EXPERIENCES

- Risk Management Intern at NYC Office of the Comptroller's Pension Fund (Sept 2018 - Dec 2018)
- Internal Audit Summer Analyst at Morgan Stanley (Jun 2018 - Aug 2018)
- Software Developer intern at ServiceTask LLC, Rhode Island (Jun 2013 - Oct 2013)
- Case Manager Intern, Lutheran Social Services, Refugee Resettlement Division (May 2011 to Aug 2011)