

# Burak Yesil

burakyesilnj@gmail.com | Ridgewood, NJ | 201-785-4299 | [Portfolio](#) | [GitHub](#) | [LinkedIn](#)

## Education

### Stevens Institute of Technology

December 2023

B.S. in Computer Science

GPA: 3.81/4.0

**Relevant Courses:** Algorithms, Data Structures, Deep Learning, Computer Architecture, Operating Systems, Systems Programming, Object-Oriented Programming, Theory of Computation, Web Programming, Concurrent Programming, Principles of Programming Languages, Agile Methods, Fundamentals of Machine Learning, Natural Language Processing, Linear Algebra, Discrete Structures, Database Management Systems

## Skills

**Languages:** Python, Java, C, C++, SQL, JavaScript, TypeScript, R, Golang, OCaml, Erlang, Groovy, HTML/CSS

**Frameworks & Tools:** NumPy, Pandas, PyTorch, TensorFlow, Keras, Sklearn, Jupyter Notebooks, Kaggle, SQL, PostgreSQL, LangChain, Matplotlib, ReactJS, Node.js, MeteorJS, Flask, REST API, JSON, YAML, XML, Selenium, S3, Linux, Bitbucket, Git, GDB, UNIX, Docker, Hyperledger, AWS, Postman, MongoDB, Lambda, SageMaker, Spark, Bloomberg API, Distributed Systems, Microservices, Multi-threading, Hyperparameter Tuning, OOP, Agile, Excel

## Experience

### Cantor Fitzgerald | Risk Technology Engineer

March 2024 - Present

- Developed the Daily VaR Report Engine in Python, a multithreaded internal analytics tool that sources data from our SQL databases, automatically aggregates data from all relevant tables, generates and sends out daily VaR and stress level email reports, containing VaR metrics at the strategy, book, and entity levels.
- Implemented financial models, including VaR and stress testing scenarios using RiskMetrics, to measure and manage potential risks, backtesting with historical data, optimizing codebases, and building high-performance multithreaded internal tools to enhance legacy systems' performance, maintainability, and scalability.
- Architected and developed an optimized Position Enrichment process, replacing the legacy system using Python, OOP, and SQL, significantly reducing runtime and costs by completely redesigning the pipeline architecture, minimizing redundant Bloomberg field calls.
- Built complex SQL queries, view, and optimized tables using indexes to facilitate easy access to essential market data, enabling informed decision-making for the market risk team.
- Programmed an advanced Options Price Handling system, enhancing options pricing and risk evaluation by automating the management of OCC price data. This included fetching, parsing, and storing millions of rows daily, automated data retrieval, XML parsing, database integration, and backup to AWS S3. In the end, processed this data through the Black-Scholes model to calculate implied volatility helping price different options contracts.

### Citizens Bank | Part-time ML & Blockchain Engineer

June 2022 - October 2022

- Designed and built a multi-organizational private blockchain network and custom JavaScript smart contracts with Hyperledger and Golang on Red Hat Linux, using gRPC for EC2 instance communication.
- Collaborated with senior leadership to develop an AI-powered chatbot for Citizens Bank, enhancing customer service and engagement with LLMs.

### Stevens Institute of AI | Selected AIRS AI Program Research Fellow

June 2021- May 2023

- Built a podcast AI tool leveraging the Transformer Architecture for enhanced content visualization with automatic visual contextual pop-up generation. Trained and deployed three NLP models in Python applying Transfer Learning to the BERT model, using the TensorFlow framework on AWS, and showcased research findings to the Stevens CS Faculty.

## Projects

### Podsee | Founder

June 2021- May 2023

- Founded an AI startup in my freshman year following my research, funded by a startup accelerator, to create an algorithm that identifies topics discussed in podcast audio and seamlessly generates explanatory visual pop-ups.
- Accelerated processing through multithreading, leveraging C++ for critical components, and the BERT model for NLP.