Samir Varma

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EDUCATION

Rutgers University, New Brunswick - Honors College **GPA: 3.956/4.000**
B.S. in Computer Engineering, B.S. in Mathematics, Minor in Physics Aug. 2023 - May 2027

- **Involvement:** IEEE Honors Society, Engineering Honors Academy, Quantitative Finance Club, Data Science Club, Rutgers Blueprint

EXPERIENCE

AT&T **June 2025 – Present**
Data Science Intern | *Python (Scikit-Learn, Pandas, Flask), JavaScript (React, Chart.js), MySQL, Azure DataBricks* *Middletown, NJ*

- Developed Random Forest Classification models to identify malicious traffic from 3000000+ IP addresses, achieving 96% accuracy
- Optimizing legacy threat classifier models with Grid Search algorithms to tune hyperparameters, increasing accuracy from 90% to 94%
- Spearheading a team of 5 engineers in an Agile environment to develop a robust, Flask-based, full-stack application using Git and Watchdog to flag and automatically roll back malicious changes to configuration and executable files in systems at high-profile events

Stealth Mode Startup **Jan. 2025 – Apr. 2025**
Software Engineering Intern | *Python (PyTorch, OpenCV, Flask, BeautifulSoup), Docker, Kubernetes, Google Cloud Platform* *San Francisco, CA*

- Collaborated with Google DeepMind engineers to develop and optimize convolutional neural network models for automating several image editing tasks, such as large object removal, facial expression altering, and red-eye removal, reducing error rates by 10%
- Containerized ML workflows with Docker and Kubernetes to standardize environments and speed up production deployments
- Designed an ETL pipeline using Python to streamline data ingestion of 5000+ images for high-scale machine learning models

CyberPhysical Intelligence Lab, Rutgers University **June 2024 – Apr. 2025**
Machine Learning Researcher | *Python (TensorFlow, TensorBoard, Pandas, Matplotlib), Linux* *Piscataway, NJ*

- Integrated a multi-agent reinforcement learning algorithm into the CARLA autonomous driving simulator to enhance real-time decision-making capabilities for autonomous vehicles using Actor-Critic neural networks in TensorFlow, improving learning by 14%
- Conducted parallel experiments to evaluate trade-offs for Deep-Q and Actor-Critic Network architectures and increase efficiency.

NASA L'SPACE Mission Concept Academy **May 2024 - Aug. 2024**
Data Analyst | *SQL, Google BigQuery, Power BI* *Tempe, AZ*

- Utilized SQL to query a dataset of 300+ lunar rover components, improving power efficiency by 44% and reducing costs by 32%
- Developed Power BI dashboards visualizing key financial KPIs, cost analysis, and risk exposure to enhance customer-related decisions

PROJECTS

TF-Trades | *Go (Gin, Fiber), PostgreSQL, JavaScript (Next.js, React, Recharts), Tailwind CSS, TypeScript, Python (Selenium, BeautifulSoup)*

- Developed a full-stack marketplace application for the game Team Fortress 2 to track prices of 3000+ in-game items over 3 years, storing pricing data in PostgreSQL and utilizing React (Next.js/Tailwind CSS) and TypeScript to create an interactive user interface
- Adapted and enhanced an open-source Steam trading bot to integrate with APIs from 3 Team Fortress 2 trading platforms, automating arbitrage opportunity detection to complete over 50 trades per day and significantly increase trading profitability

NextLevel | *JavaScript (Node.js, Next.js, React), TypeScript, MongoDB, Tailwind CSS, AWS Lambda*

- Launched a full-stack social media website for video game reviews, integrating the IGDB API to access data on 400,000+ games and growing a client base of 100+ users with a user authentication system created in Node.js, used MongoDB for scalable data storage
- Implemented review creation, commenting, and liking with Tailwind CSS, using AWS Lambda to process profile images automatically

Game-Theoretic Pokémon Battle Bot | *C++, C#, Python (Scikit-Learn, NumPy), WebSockets API*

- Developed a game theory-based AI agent for Pokémon Showdown using Nash equilibria to compete online against human opponents, peaking in the top 150 players worldwide, used C++ with pybind11 to complete probability calculations and C# to visualize statistics
- Implemented a Random-Forest machine learning model to analyze battle state features such as weather and current HP and weight payoff matrix for in-game actions, improving decision-making by 73% compared to random selection and achieving a 61% win rate

LEADERSHIP

Engineering Honors Academy Events Committee **Jan. 2024 - Present**
Lead Event Coordinator *New Brunswick, NJ*

- Organized over 10 social and professional events, fostering an inclusive environment for 250+ engineering honors academy scholars
- Aiding in fundraising and budget allocation for honors academy events, securing over $2500 for honors academy-related expenses

Rutgers Engineers Assessing Literature **Feb. 2024 - Present**
Discussion Group Leader *New Brunswick, NJ*

- Led biweekly meetings with honors engineering scholars to collaboratively discuss literary works, such as research papers and novels

SKILLS

- **Programming Languages:** Python, C, C++, C#, Java, Go, R, SQL, JavaScript, TypeScript, HTML, CSS, MATLAB
- **Frameworks/Libraries/Tools:** React, Node.js, Next.js, Tailwind CSS, Flask, FastAPI, Django, .NET, PyTorch, TensorFlow, Scikit-Learn, Pandas, NumPy, SciPy, Matplotlib, Streamlit, BeautifulSoup, Selenium, Jupyter Notebook, Power BI
- **DevOps/Cloud/Databases:** Git/GitHub/Gitlab, AWS, GCP, Azure Databricks, Docker, Kubernetes, MongoDB, PostgreSQL