

Pranav Ahluwalia

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LINKS

[Portfolio](#), [Blog](#), [Linkedin](#), [GitHub](#)

EDUCATION

Sep 2021 — May 2023	MS Applied Mathematics, Northeastern University GPA: 3.7, College of Science Scholarship Courses: Probability I, Statistical Learning Theory, Point Estimation Theory Activities: NU math club, NU Systematic Alpha	Boston
Sep 2017 — May 2022	BS Computer Science and Mathematics, Northeastern University Courses: Calc 3, Algorithms, Real Analysis, Linear Algebra, Diff-eqs, AI, Group Theory, Stochastics	Boston

SKILLS

Python, R, SQL, C++, Java, Git, Bash, Machine Learning, Probabilistic Modeling, Algorithm Design

EXPERIENCE

Sep 2020 — Dec 2020	Software Engineer Co-op, Acadia <ul style="list-style-type: none">Designed software infrastructure for OTC derivatives risk management strategies using Python and SQLLeveraged numerical algorithms to automate cleaning of data containing peer-metrics/exposure/riskReduced margin call data latency by 15% to boost client-side performance	Norwell, MA
Jun 2020 — Jul 2020	Software Engineer Intern, Dell Technologies <ul style="list-style-type: none">Constructed an internal cyber threat intelligence platform using Python and flaskMapped 1,000,000+ emerging network vulnerabilities to model real-time asset exposureEnhanced threat remediation by 20% through automated CVE risk analysis	Hopkinton, MA
Jul 2019 — Dec 2019	Cyber Security Co-op, MITRE <ul style="list-style-type: none">Developed command line parsing software for large-scale server activity monitoringCreated Kibana dashboards for 40% uptake in user-based anomaly detectionPorted millions of server queries into a well organized elastic search database	Bedford, MA
May 2018 — Aug 2018	Cyber Security Intern, MITRE <ul style="list-style-type: none">Engineered an interactive visualization suite to process live radar signal dataPerformed cluster analysis on 500,000 compromised binaries across 8 factors	Bedford, MA
Jun 2016 — Jul 2016	Research Mentorship Program, UCSB Statistics Dept. <ul style="list-style-type: none"><u>Co-Authored research paper</u> on ARIMA trading strategies and time series analysis	Santa Barbara, CA

PROJECTS

Online Poker/Poker Theory Youtube Channel

- Generated a **5 bb/100 win-rate** across a 50,000 hand sample
- Researched **quantitative poker strategies** using GTO+ and statistical libraries in Python
- Started a youtube channel dedicated to game theory optimal poker with **> 1500 subscribers**
- Cashed \$20,000 USD playing 2/5, 1/2, and .5/1 stakes both online and live (heads up and 6-max)

Volatility Index Markov Model

- Built a custom module for time series to Markov model conversion
- Derived a stationary distribution from 10 years of VIX data and performed a monte carlo simulation
- Tested the model's two-step transition probabilities against the empirical distribution using Chi-squared

Colonel Blotto Toy Game Solver

- Implemented a solver for a variant of the Colonel Blotto game
- Devised an algorithm combining **no-regret learning** and **Monte Carlo optimization**
- Assembled a loss function based on the expected value of an agent's intermediary strategy