# PRANAY SUBRAMANIAN

647-807-4708 | sreepranaysubramanian@gmail.com | linkedin.com/pranay-subramanian | github.com/Pranay | pranaysubra.com

## EDUCATION

**University of Waterloo** — Waterloo, ON
*Bachelor of Computing and Financial Management* — *Sept 2025 – May 2030*

## EXPERIENCE

**Quantitative Analyst** — Jan. 2026 – Present
*Financial Analysis and Risk Management Student Association* — *University of Waterloo, Waterloo, ON*
- Analyzed precious metals spreads against consumer inflation expectations using Python (yfinance, FRED API) to identify trading signals with 11.8% copper out performance
- Coded a SABR volatility model leveraging volatility surface analysis for accurate option pricing, valuation and volatility detection.
- Reverse engineered MVO portfolio optimization techniques, to analyze functionality+reasoning, of created portfolio structure

**External Affairs Coordinator** — Jan. 2026 – Present
*UW Computer Science Club* — *University of Waterloo, Waterloo, ON*
- Coordinated and maintained ongoing relationships with top club partners like Google, Tesla, QNX, and more
- Prepared enhanced sponsorship outreach material/documentation including, club financial statements, term forecasts and more

**Student Administrative Council President** — Sept. 2021 – June 2025
*St. Augustine Catholic High School* — *Markham, ON*
- Led a 30+ member team and directed logistics for 20+ school-wide events including Games Nights and School Carnivals
- Oversaw the financial organization of over $35,000 in revenue for an annual Semi-Formal Event, managing all sales logistics
- Introduced a data-driven feedback collection initiative which revamped student interest by 64%

**Sponsorship Committee Lead Manager** — Feb. 2025 – June 2025
*Business Leadership Council - Business Banquet* — *St. Augustine CHS, Markham*
- Led a Sponsorship Committee in raising $45,000 for the SickKids Foundation for a business banquet, organized by the council
- Secured sponsorships from firms like Qualcomm, Starbucks, and TD Bank through strategic outreach, networking, and more
- Organized a Silent Auction logistics, with high-value donations and prizes, contributing a further $10,000+ for the charity

**Robotics Camp Counselor** — June 2024 – Aug. 2024
*City of Markham* — *Markham, ON*
- Mentored 300+ kids aged 6-13, across 2 months, through various robotics/programming challenges, teaching Scratch and Python
- Ideated and developed a new, successful design thinking robotics challenge, while ensuring camper adherence to safety guidelines

## PROJECTS

**Personal Portfolio Website** | *Next.js, Tailwind CSS, React* — 2026
- Deployed a personal portfolio website using core frontend development frameworks, including React, and Next.js
- Coded quality, sticky scroll animations and website interactions, using Tailwind CSS and deployed using Vercel

**AlphaBL-Portfolio Creation and Optimization Model** | *Python, yfinance, PyPortfolioOpt, NumPy, Pandas* — 2025
- Engineered a quantitative portfolio optimization system combining strategic stock selection with Black-Litterman optimization to construct market-beating portfolios across US and Canadian exchanges
- Implemented rank-based stock scoring using quantitative metrics including Alpha, Sortino Ratio, Momentum, and Beta to identify top-performing securities from validated market data
- Programmed Black-Litterman optimization, for weightage distribution with Sharpe ratio maximization, while also following diversification constraints (40% sector/15% position) to maintain portfolio balance while simultaneously achieving excess returns

**LoanOracle** | *Python, XGBoost, Scipy, sklearn* — 2025
- Built a ML model using XGBoost to predict loan default risk and aid lender decision making, using borrower financial profiles
- Optimized model performance using gradient boosting ML structure, hyperparameter tuning, and validation for 60K+ datapoints
- Achieved a 0.7 F1 Score (Average of precision and recall), a 0.55 Gini Score, with precision capabilities up till 90%

**EmotionLens AI** | *Python, TensorFlow, Matplotlib, NumPy, Pandas* — 2024
- Programmed an AI model to assist alexithymic individuals with emotion and facial expression recognition
- Utilized TensorFlow, Matplotlib, NumPy, and Pandas for AI structure, convolutional neural network, data processing, and visuals

**Gun Smash Bros** | *Java, SuperSocketMaster, Object Oriented Programming, Swing, JavaFX* — 2023
- Developed a 2D platformer PvP gun game using Java and object-oriented programming principles
- Implemented multiplayer networking with SuperSocketMaster libraries (Java Socket Connections) and GUI with Swing

## TECHNICAL SKILLS

**Languages**: Python, Java, Racket | **Skills**: Machine Learning, Quantitative Finance, OOP, Leadership, Project Management
**Frameworks & Libraries**: TensorFlow, XGBoost, PyPortfolioOpt, Matplotlib, NumPy, Pandas, Scipy, Sklearn, Java Sockets Connections

## AWARDS & SCHOLARSHIPS

**University of Waterloo President's Scholarship of Distinction** (2025) | **Valedictorian Award** (2025)| **Principal's Award** (2025) | **Catholic School Council Graduation Award** (2025)| **York Secondary Catholic Presidents Council Leadership Award** (2025) | **Titan of The Month** (2025)