

# PRANAY SUBRAMANIAN

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## EDUCATION

### University of Waterloo

Bachelor of Computing and Financial Management

Waterloo, ON

Sept 2025 – May 2030

## EXPERIENCE

### Quantitative Analyst

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 outperformance
- Led feature engineering for a market regime detection ML model, to support strength of model's data inputs
- Developing strong market analytical, financial and risk management models meant aid effective decision making

### External Affairs Coordinator

UW Computer Science Club

Jan. 2026 – Present

University of Waterloo, Waterloo, ON

- Coordinated new plans, and maintained ongoing relationships with top club partners like Google, Tesla, QNX, and more
- Led the development of improved sponsorship outreach material to improve interest/involvement rate of potential sponsors

### Student Administrative Council President

St. Augustine Catholic High School

Sept. 2021 – June 2025

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
- Introduced a data-driven feedback collection initiative which revamped student interest

### Sponsorship Committee Lead Manager

Business Leadership Council - Business Banquet

Feb. 2025 – June 2025

St. Augustine CHS, Markham

- Led a Sponsorship Committee in raising \$45,000 for the SickKids Foundation for a major business event
- Secured sponsorships from firms like Qualcomm, Starbucks, and TD Bank through strategic outreach
- Organized a Silent Auction with high-value donations, contributing \$10,000+ to the total

### Robotics Camp Counsellor

City of Markham

June 2024 – Aug. 2024

Markham, ON

- Mentored over 300 kids aged 6-13 through robotics and programming challenges, teaching Scratch and Python
- Ideated and developed a successful new Amazing Race themed design thinking robotics project for the camp

## 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 in Tailwind CSS for quality animations and website interactions, and Vercel for deployment

### 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
- Employed Black-Litterman optimization function for optimal asset weightage with Sharpe ratio maximization, subject to sector diversification constraints (max 40% per sector) and 5-15% position limits

### 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, data processing, and visualization

### Gun Smash Bros | Java, SuperSocketMaster, OOP, 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)