# Miles Hall

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## EDUCATION

**William & Mary** **Williamsburg, Virginia**

*Bachelor of Science in Computer Science, concentration in AI/ML • 3.82 GPA* *Expected May 2028*

- **Distinctions/Honors:** Monroe Scholars Program • Dean's List all semesters • Charles Center Grant Recipient
- **Extracurriculars:** Career Chair for ACM • Python Tutor for Computer Science Department • Stock Pitch Ambassador
- **Relevant Coursework**: Data Structures • Linear Algebra • Public Speaking • Calculus I-III • Competitive Programming

## RELEVANT EXPERIENCE

**Quantitative Researcher** **Williamsburg, Virginia**

*Mason Investment Fund, Quantitative Risk Group* *September 2026 - Present*

- Worked with a team of 3 other researchers in the QRG to develop statistical and econometric models to identify portfolio risks and factor exposures for the Mason Investment Fund, a fund with a portfolio of over $100,000 in equities.
- Applied quantitative techniques to translate financial hypotheses into models. Communicated findings to the fund.

**Undergraduate Economics Researcher** **Philadelphia, Pennsylvania**

*Charles Center for Undergraduate Research, mentored by Professor Abhiprerna Smit* *June 2026 - August 2026*

- Authored a 20-page review on the challenges of measuring gig work and characteristics of gig economy research.
- Examined the correlation between the size of the gig economy and the health of the labor market across state and time.
- Used Python and the Numpy library to analyze survey and tax return data. Worked with extensive, multiyear microdata from the BLS, IRS, Federal Reserve, Census Bureau, Department of Labor, and independent surveys.

## LEADERSHIP EXPERIENCE

**Career Chair** **Williamsburg, Virginia**

*Association for Computing Machinery, William & Mary* *January 2026 - Present*

- Maintained connections with alumni and the computer science department. Organized alumni panels and visits.
- Led workshop series to prepare 50+ current members for technical interviews and careers in technology.

**IT Manager** **Philadelphia, Pennsylvania**

*Rittenhouse Needlepoint* *January 2023 - January 2025*

- Facilitated an officewide transition from ethernet to WiFi. Set up the new network and migrated existing devices.
- Serviced information technology, including web servers and a local area network, for a store and office.
- Documented all computer hardware officewide. Reduced costs by dismantling obsolete and broken devices for parts.

## PROJECT EXPERIENCE

**"Shelf-Life Guard"** **Williamsburg, Virginia**

*Case-A-Thon II, 1st place overall @ William & Mary* *October 2026*

- Simulated real-world data poisoning (stale features and bulk-scan label errors from 20% of couriers) on LaDe delivery data and trained LightGBM median and P80 ETA models across 2,028 weekly retrains to measure its impact.
- Built a three-layer data-quality safeguard and interactive web demo as part of a three-person team, recovering 90% of lost accuracy and flagging corrupted records at 95% precision and 99% recall on a four-week holdout.

**"VolumeMaster 2" Derivative-to-Underlying Volume Analysis Tool** **Williamsburg, Virginia**

*&Hacks XII, 2nd place in Finance Track @ William & Mary* *September 2026*

- Solo developed a web extension and data pipeline to provide information about the volumes of the physical and paper markets for trading card products on the Kalshi prediction market. Used the Kalshi API, TCGCSV API, and Apify API.
- Architected the pipeline to reduce API calls to just 14/day, centralized to scale with any number of users.
- Integrated paper-to-physical ratio information into Kalshi's UI, highlighting markets susceptible to manipulation.

**"ForeGASt" Fertilizer Price Forecast and Dashboard** **Charlottesville, Virginia**

*HooHacks, 1st place in Finance Track @ University of Virginia* *March 2026*

- Built an XGBoost model on 25 years of commodity data in order to forecast fertilizer prices 30, 60, and 90 days ahead from natural gas price movements, achieving ~75% directional accuracy on held-out data.
- Developed a Streamlit dashboard with Monte Carlo simulations to provide forecasted purchasing recommendations.

## SKILLS & INTERESTS

**Technical Skills:** Python (Pandas, Numpy); Machine Learning; AI-assisted development (Claude Code, Cursor); SQL
**Interests:** Weightlifting; Poker; Magic: the Gathering; Computer programming; Pickup basketball; Marathon 2x, Half 7x