

# SAUMYA BRAHMBHATT

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## Education

**Top 10% – National Board Exam, India**

**University of Maryland, Baltimore County**

*B.S. in Computer Science – AI/ML, Honors College*

**Aug. 2025 – May 2027 (Expected)**

*Baltimore, MD*

**Harford Community College**

*A.A.S. in Computer Science with High Honors | GPA: 4.00/4.00*

**Aug. 2023 – May 2025**

*Bel Air, MD*

## Experience

**QuPIDC – Quantum Portfolio & Investment Decision Center**

**Baltimore, MD**

*Summer Research Intern – Adaptive Variational Quantum Reinforcement Learning*

*May 2026 – Present*

- Authored independent proposal on Adaptive VQRL for Dynamic Portfolio Optimization; selected under Dr. Lei Zhang (IS Dept., UMBC).
- Extending VQC-based RL with adaptive circuit architectures and multi-scale temporal windows (5–60 days); targeting >10% Sharpe ratio improvement.

**AIM-PQC – Automated Program Repair Lab**

**Baltimore, MD**

*Summer Intern – Automated Program Repair for Quantum Software*

*May 2026 – Present*

- Extending QiskitBench (1,175 SO/SE issues) as a Bugs4Q complement with **200–300** unit-tested issues for automated LLM repair evaluation.
- Designing blind evaluation protocol; running GPT-4o Mini and GPT-5 Mini for the first cross-layer LLM repair analysis on real-world quantum programs.

**University of Maryland, Baltimore County**

**Baltimore, MD**

*Teaching Fellow – CMSC304*

*Sept. 2025 – Present*

- Lead ethics & diversity discussions for **100+** undergraduates across **4** workshops and **15** student interviews.

**University of Maryland, Baltimore County**

**Baltimore, MD**

*Undergraduate Research Engineer – BizChat (LLM Business Plan Tool)*

*Sept. 2025 – Jan. 2026*

- Built web app for small business owners; improved accessibility **40%** and cut drafting time **60%** via HCI-driven design informed by **4** workshops and **15** interviews.
- Integrated GPT-4 Turbo & Whisper-1 for section-level generation (<2s latency); routed support issues via Slack webhook.

**Harford Community College**

**Bel Air, MD**

*AI/ML Curriculum Development Intern*

*March 2025 – Jan. 2026*

- Designed AI/ML credit/non-credit track (Python, neural networks, ML ethics) aligned with MHEC standards; researched **15+** programs for a Maryland state proposal.

*Teaching Assistant*

*April 2024 – May 2025*

- Assisted **200+** students in C/C++, Java, Physics, Chemistry, and Math through the CRLA-certified Learning Center.

## Projects

**ACTA AI – CTA Intelligence Platform | Runner-up, Regeneron Track – HackPrinceton '26 | FastAPI**

*Apr. 2026*

- 4-agent LangGraph pipeline parsing CTAs in <60s, flagging RED/YELLOW/GREEN clauses; smart model router (K2 → legal, Gemini Flash → classify, Claude Sonnet → rewrite); unlocks **\$2.24B** pipeline value across 56 Regeneron programs.

**CommunityVoice – AI Nonprofit Intake | Google Solution Challenge '26 | Gemini AI, Firebase, Google Maps**

*Jan. 2026*

- Eliminated manual intake for **1.9M+** U.S. nonprofits—Gemini multilingual intake in **5 languages** auto-resolves cases in <90s with Firestore resource allocation and NGO map matching.

**Budget2Broker – AI Financial Literacy Platform | React, Next.js, Tailwind CSS**

*Sept. 2025 – Present*

- **4th Place, Alex & Brown Center 2025 Tech & Innovation Track**; AI financial assistant with live stock charts for personalized education; presented at GCSP Annual Conference, Rome.

**ScholarSnap – AI Paper Summarizer | Python, Streamlit, Hugging Face, OCR, NLP**

*May 2025 – Present*

- Reduced manual reading time **80%**; optimized NLP backend for **60%** faster summarization with real-time upload and retrieval.

**Numerical Study of 1D Falling Disks with Air Resistance | MATLAB, Data Analysis**

*Apr. 2025*

- Presented at 10th Annual Maryland Collegiate STEM Conference; automated PASCO Capstone capture at **99% accuracy**; built ode45 simulations with <5% error.

## Technical Skills

**Languages:** Python, Java, C/C++, JavaScript, TypeScript, HTML/CSS, SQL, MATLAB

**Frameworks & Tools:** React, Next.js, FastAPI, LangGraph, Streamlit, Docker, Git/GitHub, Jupyter Notebook, Webhook Integration

**AI/ML & Quantum:** Hugging Face, Tesseract OCR, NLP, GPT-4 Turbo, GPT-4o Mini, Gemini 2.5 Flash, Claude Sonnet, Whisper-1, Qiskit, VQC/RL

**Cloud & Databases:** Firebase Firestore, Google Cloud Run, Parquet, Alpha Vantage API, OpenStreetMap, Google Translate API

## Leadership / Extracurricular

**Honors Council – Vice President**

**Fall 2024 – Spring 2025**

*Harford Community College*

- Led **5+** engagement initiatives boosting participation **20%**; managed **10+** council members and ran weekly meetings.