Pranay Kakkar

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EDUCATION

University of Connecticut **Storrs, CT**
Bachelor of Science in Computer Science Expected May 2027

- **GPA:** 4.0 / 4.0; SAT: 1550, Honors, STEM Scholar (4-year scholarship)
- **Relevant Coursework:** Differential Equations, Linear Algebra, Data Structures & Algorithms, Quantum Computers

EXPERIENCE

University of Connecticut Undergraduate Research **Storrs, CT**
AI/ML Researcher May 2024 – Aug 2024

- Conducted R&D on data-driven solutions for biometric cryptography, co-developing Fingerprint Privacy with **92%** accuracy using machine learning models (ResNet, DenseNet, SVMs) in PyTorch and scikit-learn.
- Engineered CUDA-accelerated feature extraction algorithms that reduced runtime by 40%, efficiently processing **400K+** structured and unstructured data samples, echoing the automation of data workflows and metrics pipelines.
- Evaluated multiple ML techniques and model architectures, documenting comprehensive algorithms and processes to achieve **90–94%** accuracy, thereby enhancing data communication and supporting data-driven decision making.

The McCarron Group, University of Connecticut **Storrs, CT**
Physics Lab Assistant May 2023 – Sep 2023

- Automated data collection and visualization workflows in Python for high-precision laser calibration experiments.
- Applied statistical regression models to improve accuracy of experimental measurements and instrument control.
- Supported demonstrations and data reports for **50+** researchers in outreach, enhancing team productivity
- Developed transferable skills in analytical problem-solving, data organization, and technical communication, essential for business technology environments.

PROJECTS

FlowIQ | *AI-Enhanced Data Analytics and Visualization Platform* May 2024 – Aug 2024

- Engineered a full-stack analytics platform that automates user data tracking, visualization, and insights generation to support data-driven decision-making and performance optimization.
- Built a React + TypeScript front end with Tailwind CSS, Recharts, and react-query, paired with a TypeScript analytics engine and a modular architecture designed for future integration with MongoDB and cloud scalability (AWS/GCP).
- Leveraged GitHub Copilot and AI-assisted development tools to accelerate design, refactor code, and enhance maintainability, deploying a Vite + GitHub Pages prototype with future-ready cloud integration.

BobcatLib | *Bobcat Robotics – FRC Team 177* May 2024 – Aug 2024

- Engineered modular robotics software library with intuitive user interfaces, collaborating with team to translate project requirements into technical solutions and optimize control algorithms.
- Designed comprehensive documentation that allows for scalability and maintainability.

Stationery | *Congressional App Challenge* Jan 2025 – Mar 2025

- Developed career exploration app using Kotlin and NoSQL Databases (MongoDB), extracting and processing data to deliver data-driver features, such as career advising decisions; received Special Recognition for innovation
- Collaborated with co-founder and intended audience through beta testing, iterating on feedback to improve UX, usability, and demonstrating enthusiastic communication skills

SKILLS, ACTIVITIES & INTERESTS

Certifications & Training: DP-900 (Microsoft Azure), AI-900 (Microsoft Azure), Certified in Cybersecurity (ISC2), AI Certified (Harvard Computing Society)
Programming Skills: Python, Java, C/C++, JavaScript, Kotlin, SQL, HTML/CSS
Data Science Systems: SQL/NoSQL databases (MongoDB), Structured/Unstructured Data, Data Processing, S3
Tools + Frameworks: PyTorch, scikit-learn, OpenCV, Git, Docker, MongoDB, Azure, VS Code, Raspberry Pi, NumPy
Activities: Husky Quantitative Group, UConn AI Club, UConn Cyber, Algorithms Club UConn, Quantum Computing Society
Accomplishments: ARML State Representative x3, AIME Qualifier, Math Kangaroo State Champion, ACSL National Qualifier, CTF winner at University of New Haven