

Daksh Kaul

Piscataway, NJ (+1) 848 - 236 - 7043 dk1293@scarletmail.rutgers.edu  linkedin.com/in/dakshkaul

Education

Rutgers, The State University of New Jersey
School of Arts and Sciences
B.S. Computer Science, Minor in Mathematics

New Brunswick, NJ
September 2024 – May 2027

Technical Skills

Coursework Linear Algebra, Multi-variable/Differential Calculus, Numerical Analysis, Data Structures & Algorithms, Machine Learning, Quantum Algorithms, Optics, General Physics, Computer Architecture

Languages Python, Qiskit, C, Java, Rust, SQL, HTML, CSS, JavaScript, jQuery, Node.js, Express, x86 Assembly

Software Linux, Git, MySQL, NumPy, SciPy, Matplotlib, Pandas, Pytorch, Firebase, CI/CD, Autodesk Fusion 360, Ableton, DaVinci Resolve, KiCAD

Certifications IBM Quantum: Basics of Quantum Information  Credential ID: 30038ab0-64eb-4ecb-82b4-a42639bdc9ab

Research & Leadership

Mathematical Physics Research – Rutgers Department of Mathematics **New Jersey, USA**
Undergraduate Researcher (Advisor: Prof. A. Shadi Tahvildar-Zadeh) April 2026 – Present

- Conducting research in **one-dimensional relativistic quantum systems**, applying spectral theory, operator methods, and computational modeling to electron-photon scattering problems with interior-boundary conditions
- Investigating the role of **negative-energy solutions and inter-sector coupling** in fixed-particle relativistic dynamics, deriving analytical results on scattering behavior, boundary interactions, and pair creation and annihilation phenomena relevant to QED & QFT models of particle interactions.

Projects & Experience

 **Catfish - Multi-Model Finance Forecasting & Algorithmic Trading Framework** **New Jersey, USA**
Quantitative Researcher/Developer May 2026 – Present

- Designed a **distributed, horizontally scalable trading system** with strategy-partitioned agents, self-regulating execution logic, and local/global performance caching for validated order execution across multiple trading horizons.
- Developed a novel **Hermitian polynomial feature embedding** over rolling price and volume windows, feeding a hierarchical ensemble of **HMM market regime detectors, MLP trend classifiers, and FinBERT sentiment analysis models** for multi-resolution trend forecasting

 **RU Makerspace - Rutgers Makerspace 3D Printing Service** **New Jersey, USA**
Full-Stack Developer October 2025 – February 2026

- Built a full-stack web platform using **React.js, Node.js/Express, and Snowflake SQL** to manage 3D printing requests, file uploads, and authentication via **Firebase**
- Utilized **Google Gemini AI RESTful API** to analyze 3D models and auto-generate optimal printer settings

 **Project Resonator – The Open-Source In Ear Monitors** **New Jersey, USA**
Founder & Engineer March 2025 – September 2025

- Engineered in-ear headphones** with a 4-driver, 4-way optimized crossover circuit via **impedance + phase alignment analysis, and acoustic simulation**
- Marketed development on social media and inter-college startup incubators (NSF I-Corps), **generating 30K+ views across public outreach, & \$1,500+ in seed funding.**

 **Clamshell – Task Management/Tracker Tool for Developers and Power Users** **Gurugram, India**
Backend Developer June 2024 – July 2025

- Architected a command-line task management utility in Rust, engineering it to be editor-agnostic (e.g., Vim, Nano) to streamline text-based workflows, **achieving 7,000+ downloads.**