



— ACADEMIC EXPERIENCE

University of Washington, Seattle, WA, USA

June '29

B.S. Candidate – Materials Science & Engineering, Data Science · GPA 3.54 / 4.0

- Relevant coursework: Data Structures & Algorithms, Software Programming (Java, Python), Calculus II, Intro to Materials Science Engineering.
- Self-directed study in pharmacokinetics, PBPK modeling, and computational pharmacology through primary literature, FDA guidance documents, and textbooks.

— WORK EXPERIENCE

NeoGen – AI-Powered Drug Development Platform

Jan '26 – Present

Co-Founder

- Architected and built a full-stack pharmacokinetic system with **25,000+ lines** of scientific-computing code, **50+ ML models**, and a production REST API – an end-to-end tool for early-stage drug development.
- Engineered a **14-compartment PBPK engine** solving coupled ODEs for absorption, distribution, metabolism, and elimination, enabling real-time PK-curve simulation for researchers and pharma partners.
- Developed an ML ensemble predicting half-life, clearance, volume of distribution, and protein binding from molecular structure alone – ~60% within-2-fold accuracy on blind holdout validation.
- Presented at UW's ZeroToOne Startup Competition; accepted to **Y Combinator Startup School** (India).

Quantum Computing Club (QCC), University of Washington

Oct '25 – Present

Research Member

- Implemented a Variational Quantum Eigensolver (VQE) to find molecular ground-state configurations and analyze how the algorithm scales with problem complexity, with a team of 4.
- Built the full VQE pipeline in Qiskit; constructed molecular Hamiltonians with PySCF, mapped them to qubit operators via parity mapping, and evaluated UCCSD and EfficientSU2 ansätze under noiseless and noisy IBM device simulators.
- Optimized circuits using COBYLA and SPSA; computed ground-state energies for H₂ and LiH with near-exact agreement to classical eigensolver benchmarks across varying interatomic distances.

Atelier, Kolkata, West Bengal

June '23 – Aug '25

Founder

- Identified that underprivileged artists in Kolkata lacked platforms to reach buyers, and created a sustainable model to showcase and sell their work.
- Founded Atelier – built a website with artist blogs and art-news updates and ran sales operations end to end.
- Sold artwork totaling **₹16.11 lakh (~\$17,000)**, donating profits to Manav Seva Sansthan for charitable initiatives.

Zenith Credit Limited, Kolkata, West Bengal

June '24 – Aug '24

Intern

- Supported a finance team through a high-volume operational period across analytical tasks and client interactions while learning accounting workflows.
- Managed accounting software and completed analytical assignments; earned recognition from supervisors for dedication and teamwork, improving team efficiency.

Goalteller (SEBI-Registered Fintech), Remote

Dec '23 - Jan '24

Data Science Intern

- Applied Python to clean, analyze, and visualize financial datasets, enhancing investment analytics for a SEBI-registered wealth-management platform.
- Developed data pipelines and visualizations supporting investment decisions for **1,000+ users**, contributing to improved client portfolio recommendations.

Viratech Software, Bengaluru, Karnataka

Jan '24 - Mar '24

FinTech Intern

- Analyzed financial and operational data with TallyPrime and Excel to streamline reporting and improve data accuracy.
- Assisted in implementing accounting-software workflows, reducing manual-entry time while meeting company standards.
- Joined client review meetings to gather requirements and prepared financial summaries and presentation materials for internal and client use.

— PUBLICATIONS

- Aanya Loyalka (2024). *Internet Shutdowns in India: Assessing the Human Rights Implications* – implemented by IFF.
- Aanya Loyalka (2024). *What Are the Leading Theories for Explaining Dark Matter (WIMPs, MACHOs, and MOND)?* – International Journal of Scientific Research in Science and Technology.

— SKILLS & CERTIFICATIONS

Languages: Python, Java, HTML/CSS, Qiskit

Scientific Computing: SciPy ODE solvers, RDKit, Morgan fingerprints, PBPK modeling, pharmacokinetic simulation, Michaelis–Menten kinetics

Certifications: CS50's Introduction to Computer Science (Harvard); Space Science, Technology & Applications (ISRO); Computational Thinking for Problem Solving (UPenn); Introduction to CS & Programming Using Python (MIT)

— LEADERSHIP ACTIVITIES

Senior Prefect, Student Council, La Martiniere for Girls

Apr '24 - Mar '25

- Led planning and execution for major school events (Athletics Meet, Teacher's Day, Carol Evening), coordinating logistics and performances across each.
- Organized the Junior School Sports Meet, choreographed and taught dances for Teacher's Day, and coordinated the winter play – all delivered to positive reception.

President, Computer Club & Science Club, La Martiniere for Girls

Apr '23 - Mar '25

- Edited and published the *Science Journal 2025* (8th Edition) and led the school's science exhibitions in 2024 and 2025.
- Built an HD camera drone for aerial event coverage, addressing a gap in school documentation.

Captain, Swimming Team, La Martiniere for Girls

Apr '24 - Mar '25

- Led the swim team at Inter-Mart and CISCE Regionals, won interclub events, and organized team-building activities.
- Won **61 total medals** across national, regional, club, and school levels; earned the Most Valuable Swimmer trophy.