Aditya Mittal

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Education

Carnegie Mellon University — Pittsburgh, PA
Bachelor of Science in Computer Science - GPA: 4.0/4.0 — *August 2022 - May 2026*

Coursework: Principles of Software System Construction, Introduction to Machine Learning, Principles of Functional Programming, Great Ideas for Theoretical Computer Science, Introduction to Computer Systems, Introduction to Deep Learning (audit)

Clubs: ML Researcher at Xu Lab and Wu Lab (Spring 2023), Logistics Manager and Dancer at CMU Raasta (nationals qualifier)

Relevant Experience

Tarr Lab — Pittsburgh, PA
Undergraduate Research Assistant — *June 2023 - Current*

- **Computer Vision Researcher**: Modeled debiasing systems on state-of-the-art computer vision models with PyTorch, increasing accuracy for underrepresented classes in several datasets. Writing paper on reducing bias in real-world scenarios.

Business Technology Group Club — Pittsburgh, PA
Lead Software Engineer / Head of Technology — *August 2022 - Current*

- **App Engineer**: Built front-end functionality of Scotty Connect, a platform to showcase academic paths of upperclassmen, from scratch using React.js. Implemented a filtering algorithm using keyword extraction and MongoDB storage.
- **Team Leader**: Headed a team of 8 software engineers with varying skill levels for a one-year project. Maintained codebase on Github. Presented updates to key academic advisors and professors at CMU.

LatchBio — San Francisco, CA
Biocomputing Intern — *June 2022 - August 2022*

- **Workflow Creator**: Published no-code bioinformatics workflows for users using Docker and Python to enhance the LatchBio SDK. Built protein prediction, quality control, and gene quantification models in R.
- **Issue Debugger**: Ran quality assurance on workflows to reduce issues in preexisting models. Implemented algorithms within research papers, boosting workflow response time by >15%.

Ocean Genomics — Pittsburgh, PA
Computational Biology Intern — *June 2021 - August 2021*

- **ML Engineer**: Developed machine learning bias models in C++ for RNA-sequencing data and identified discrepancies in sample data, boosting alternative splicing and gene fusion algorithm accuracy. Fixed several pipeline efficiency issues.
- **Client Advisor**: Provided weekly analysis reports and assessed data quality using R for 2 startup clients. Presented to the computational biology team and founders weekly.

Mpathy Software — Salem, OR
Software Engineer — *April 2021 - June 2021*

Projects

- **Dining Suggestion Tool**: Designed platform to save and recommend restaurants of interest using the Yelp API. Used React.js framework and Redux state management with MongoDB storage and container deployment to Google Cloud.
- **Multiplication Transducers**: Developed efficient graph-based algorithm in C to compute base multiplication and derive properties about special multiplication transducers. Wrote paper (arXiv) and presented at two conferences (listed below).
- **Extracurricular Recommendation Service**: Launched tool that tailors extracurriculars to student's interests. Built AWS Amplify and GraphQL backend with React.js frontend. Beta tested at local high school with 10 users.
- **Risk Factors for Infectious Diseases**: Utilized random forest, statistical models, and genome-wide association studies in R to research effect of blood-related factors on acute lung injury. Offered journal advisory board position at JEI for research.
- **Effect of Age on COVID-19 Symptoms**: Produced clustering models in Tensorflow to predict and analyze novel trends in COVID time-series data. Managed team of 4 to publish paper in ASDRP Communications journal.

Other Experience

- **Hackathons:** Best Design at LaunchHacks, 1st Place in EcoHack Unity College, Best Technical in TKS Focus Hackathon
- **Talks:** TEDxJamesLoganHS, CSUEB Research Symposium, MAA Southern California-Nevada Section Conference
- **Volunteer Work:** Publication Head at students x students, CS Mentor at LTN, Full Stack Developer at Pledge Hope

Skills and Interests

- **Languages**: Python, Java, C, C++, R, HTML, CSS, Javascript, Typescript, Standard ML
- **Tools**: Git, Flask, React.js, AWS, GCP, Linux, MongoDB, Docker, PyTorch, Tensorflow
- **Certifications**: AWS Solutions Architect - Associate