

ABHINAV BICHAL

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EDUCATION

The University of Texas at Austin	Bachelor of Computer Science (& Biology) Overall GPA: 3.98 Relevant Coursework: Data Structures & Algorithms , Computer Architecture, Computational Biology, Multivariable Calculus, Theory of Computing, Elements of Software Design, Linear Algebra, Probability, <i>Intro to Machine Learning (Coursera)</i> , <i>Algorithms I & II (Coursera)</i> , <i>Operating Systems</i> , <i>Deep Learning</i>	Dec 2025
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EXPERIENCE

Capital One TIP Intern – *Software Engineer, Capital One* June 2023 - August 2023

- Developed an ML monitoring software to help identify traffic flow anomalies for the FS Dealer Data Pipeline
- Increased the efficiency of detecting Snowflake table anomaly updates by ~50%, reducing compute time and optimizing pipeline efficiency. Decreased substantial AWS pipeline costs through a centralized network architecture.
- Developed a monitoring application using Docker instances deployed via AWS ECS, utilizing Lambda triggers for lifecycle management. Also developed an internal tool for an ML workflow to trigger HTTPS events for cloud triggers on AWS.
- Received a return offer (For 2024, taking summer courses for graduating on time and personal projects)

Bioinformatics Teaching Assistant – *University of Texas at Austin* August 2022 - May 2024

- Assisted the Computational Biology research stream professor on teaching concepts of gene expression analysis and protein network interactions. Helped students understand the tools to succeed in bioinformatics and computer science
- Developed curriculum for genomic sequencing concepts and genome aligner algorithms for students

Computational Biology Research Fellowship – *Research Intern, University of Texas at Austin* June 2022 - July 2022

- Analyzed gene expression levels to identify cancer stem cells (CSCs) for early diagnosis of adenocarcinoma
- Developed PCA, UMAP/tSNE clustering algorithms to detect key biological pathways for novel drug targets
- Working alongside Dell Medical researchers to sequence patient DNA and map genes to expression level targets

ACADEMIC PROJECTS

aws_deploy - Personal Project ([github link](#)) Spring 2024 - Present

- A streamlined tool for deploying AWS architecture reliably on the cloud - a demonstration of my cloud knowledge/ skills

friscohospitalnetwork.org – Personal Project/ Web Developer ([github link](#)) Fall 2022 - Spring 2023

- Developed a website and presented it to Cook's Children hospital administration to potentially connect 10+ clinics
- Built the website with React and Firebase, and will continue to build on the project in later stages (working on it 2024)
- Collaborated with Cook's Children hospital for project approval and will continue building on the website late 2024 (when college becomes less intense)

Project TetraNet – *Intel International Science and Engineering Fair* ([github link](#)) ([ISEF link](#)) Fall 2021

- Manufactured and designed a high-altitude camera system to detect and inform local officials about wildfires
- Selected from over 10,000 candidates to compete in the Intel International Science and Engineering Fair
- Utilized TensorFlow models for terrain analytics and Azure as the primary solution for handling satellite communication and interface for our image processing API

CAMPUS INVOLVEMENT AND ACTIVITIES

Austin EMT Services - LifeStart EMT, Austin TX January 2024 - Present

- I love contributing to the medical community and currently undergoing training to work Austin Emergency Services
- Received BLS (Basic Life Support) certification from Red Cross and applying my biology knowledge in unique ways

Texas Convergent – *UT Austin Research* ([link](#)) Fall 2022 – Spring 2023

- Developed the Meals on Wheels app, which organizes food delivery to elderly, immobile populations in the Austin area
- Built the frontend UI on React Native and implemented features through a Flask API to handle authorized requests
- Developed on the Salesforce backend to connect volunteer drivers with Google maps API

SKILLS

Backend: AWS, Machine Learning, Data Science, Python, Pandas, TensorFlow, Flask, Docker, DynamoDB, SQL, CUDA

Frontend: React/ JS/ TS, Dart, Flutter, Android Studio, 3D Rendering