# Tanish Bhowmick

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## Education

**University of Texas at Austin** **August 2020 – May 2024**

*Bachelor of Science in Biomedical Engineering, Track III: Computational Engineering* ***GPA: 3.6***

*Minor: Computational Science and Engineering*

## Relevant Coursework

- Elements of Data Science
- Numerical Methods
- Network Analysis
- Linear Algebra
- Computing: Python & C++
- Machine Learning with Python

## Experience

**Populus Trading** | *populustrading.com* **June 2022 – Present**

*Technical Lead* *Austin, Texas*

- Developing stock market game where users trade shares of their favorite athletes and compete against other players
- Leading team of 6 software interns to develop leagues system, including planning front end design, database interaction, organizing agile sprints, and assisting with technical development
- Created full stack service that allows users to upload profile pictures and store them in AWS S3 bucket with React Native and Node.js

**Neucrad Health Hub LLP** **May 2022 – Present**

*Lead Developer* *Austin, Texas*

- Designing mobile app that functions as an overarching medical resource center for rural parts of India, providing information about ambulance locations, health products, home care, etc.
- Using React Native for front end development for Android phones and Node.js for back end functional tasks such as location tracking and Firebase database management
- Apply MVC design pattern to work in order to organize large scale of content that will exist in this app

**Mirror World** | *mirrormy.world* **May 2022 – October 2022**

*Full Stack Developer* *Austin, Texas*

- Constructing application with the aim of providing a crowdsourced library of 3D models and a space for these models to be utilized in the metaverse using Swift and Node.js
- Developing iOS application that will capture odometry data from Apple device LiDAR scanners to create accurate 3D models of the user's surroundings
- Implementing back-end service that uploads pictures taken by user and automates the creation of a 3D mesh
- Generating image segmentation model with PyTorch that will be able to identify people, cars, etc. from the 3D models and remove them to create better 3D maps and promote personal privacy

## Projects

**Atrial Fibrillation Detection Program** | *Python, Keras API* **November 2021**

- Generated a deep learning model to detect atrial fibrillation from ECG data
- Designed model to classify ECG data as normal, atrial fibrillation, abnormal (but not afib), and noisy data
- Trained algorithm with TensorFlow to accurately classify various types of ECG data

**State Crime Data Analysis** | *R, Python* **November 2021**

- Analyzed large datasets of state crime rates, demographics, etc. to create a predictive logistic expression model and observe binary variable responses
- Fit a regression tree to help predict crime rates in various states with multiple input parameters
- Developed understanding of data analysis techniques and approaches to creating regression models to predict numerical trends

**Electrocardiogram Device Design** **September 2021**

- Designed device to get an ECG signal from a patient and condition the signal to measure a patient's ECG data
- Constructed high and low pass active filters to condition signals from instrumentation and operational amplifiers and soldered circuit to a 4cm x 6cm breadboard

## Technical Skills

**Programming Languages**: Python, JavaScript, HTML/CSS, Swift, C++, R, MATLAB, Java, SQL
**Technologies/Frameworks**: React, Node, FireBase, BackBlaze, Numpy, PyTorch, Git, MongoDB, AWS, Ruby on Rails