

Antara Pal

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EDUCATION

BSc. Computer Science With Machine Learning Concentration

Pittsburgh, PA | Jun 2024

CARNEGIE MELLON UNIVERSITY

Coursework: Principles of Imperative Computation; Functional Programming; Intro to Computer Systems; Mathematical Foundations in Computer Science; Great Theoretical Ideas in Computer Science;

WORK EXPERIENCE

UNITEDHEALTH GROUP | SOFTWARE ENGINEER INTERN

Pittsburgh, PA | June 2021 – Present

- Implemented a novel COVID-19 case forecasting system based off SEIR and machine learning models using **Python** and **R** and achieved approx. 75 percent accuracy.
- Deployed Johns Hopkins data pipeline and automated error calculations.
- Displayed forecasting results using **Shiny** visualization tool.
- Patent pending.

MIT CSAIL | UNDERGRADUATE RESEARCHER

Boston, MA | May 2020 - Oct 2020

- Designed a self-operating web scrapper in **Python** using **Selenium** Browser Automation to develop a medium sized object data set of 20,000 high resolution images.
- Automated CSV annotations with image hyperlinks to prevent copy write infringement.
- Increased efficiency of training data set with ResNet by approx. 15 percent by optimizing image size and data set volume.

UNIVERSITY OF BRIDGEPORT | RESEARCHER

Bridgeport, CT | Aug 2018 – May 2020

- Developed computational simulations in **Python** and **XML** representing cancer movement in 4 varying extracellular matrix (ECM) microenvironments.
- Restricted local cancer invasion by approx. 98 percent by optimizing ECM fiber strength and fiber-cell adhesion energies.
- First author paper publication, IEEE/ACM Transactions on Computational Biology and Bioinformatics.
- Honored as a Regeneron ISEF finalist.

PROJECTS

CENTS FOR CHARITY

ANDROID STUDIO (JAVA), FIREBASE, SQUARE API

HACKVIOLET 2021 - MOST PHILANTHROPIC HACK (BLOOMBERG)

An Android payment application that rounds up prices to the nearest dollar and allows users to donate the added change to an organization of their choice. Integrated Square API to ensure secure payment transactions.

COMMUNITYHEALTH

ANDROID STUDIO (JAVA), ARDUINO, GCP, WEB DEVELOPMENT

MINNEHACK 2021 - FIRST PLACE OVERALL

An Android application for contact tracing and real time monitoring of vaccinated customers accompanied with an Admin dashboard. Engineered a RFID and IoT - based micro controller system to transfer vaccine documentation.

SMARTFLOW

ANDROID STUDIO (JAVA), ARDUINO, GCP

An intelligent sanitary pad monitoring pad saturation and menstruation health using pressure and light sensors with approx. 70 percent accuracy. Programmed an Android application to parse information relayed through IoT.

SKILLS

Languages: Java, Python, C/C++, SQL, XML, Julia

Web Development: React, JavaScript, TypeScript, HTML/CSS

Developer Tools: Git, GCP, ~~AT~~EX, Visual Studio, PyCharm, IntelliJ

Libraries: Pytorch, Tensorflow, pandas, NumPy, Matplotlib

Google Cloud Platform: Authentication, Firebase, ML Kit