Nasheath Ahmed

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Education

BROWN UNIVERSITY **GPA**: 3.94/4.0
Honors: magna cum laude
B.S. in Computer Science – May 2022
A.B in Biology – May 2022
RELEVANT COURSES: Deep Learning, Data Science, Introduction to Software Engineering, Artificial Intelligence, Design and Analysis of Algorithms, Deep Learning in Genomics, Software Security and Exploitation, Introduction to Object-Oriented Programming, Data Structures and Algorithms, Genetics, Introduction to Computer Systems, Practical System Skills, Statistical Methods, Molecular Genetics, Computer Vision, Stem Cell Engineering, Methods in Informatics and Data Science for Health

Professional Experience

Bioinformatics Software Engineer at Icahn School of Medicine at Mount Sinai, New York, NY Sept. 2022-Nov. 2024
- Developed full stack web application softwares using Flask, NextJS, and React to be able to visualize various expression datasets across different disease datasets.
- Created bioinformatic workflows using existing API's in order to process cancer datasets and more general RNA seq datasets.
- Mentored and assisted with big data bioinformatics related projects for Undergraduate summer interns

Data Science Intern at Envisagenics, New York, NY, July 2022 -Sept. 2022
- Created a pipeline that determined the ranges of expression of genes in normal tissues using outlier analysis
- Conducted data analysis using R and Python libraries to process the gene expression data.

Undergraduate Bioinformatics Researcher at Icahn School of Medicine at Mount Sinai, New York, NY June 2021 –August 2021
- Utilized Genomics data to look at the association between variational tandem repeats and SNPs that led to disease development
- Identified predisposing variations in various places across the genome which would cause repeat expansions to occur
- Designed scripts and conducted data cleaning on various genomics data sets using Python and Excel

Data Science Intern at New York Stem Cell Foundation, New York, NY, July 2020-June 2021
- Worked on a focus assessment pipeline to determine the quality of Ipsc cellular images using statistical methods and deep learning techniques that went into deployment
- Conducted statistical and data analysis on images including fourier transformations to determine if there are any algorithmic approaches to problem
- Developed a deep learning algorithm in keras using ResNet and subsequently fine tuning and editing layers
- Designed computational workflows to be integrated into a robotic platform for the automated derivation of induced pluripotent stem cells
- Developed a conditional GAN project to predict the outcome and growth of pluripotent stem cells

Undergraduate Machine Learning Researcher at Samuel Cho Spine Laboratory, New York, NY June 2019 –Sept. 2019
- Clinical Research in the Orthopedic field with focus on CT and MRI scans
- Implemented CycleGAN machine learning algorithm to convert thousands of CT scan images into MRI scans which utilizes Pytorch framework in Python
- Conducted feature extraction using pre-trained convolutional networks
- Developed skills in Convolutional Neural Networks and Image Preprocessing using Python
- Conducted research into clinical applicability of the conversion of CT images and various algorithms to help solve for the conversion
- Created segmentation masks of spine X-rays for Lumbar Fusion project

Relevant Projects

D2H2 *Icahn School of Medicine at Mount Sinai, New York, NY Dec. 2023*
- Flask based implementation of full stack web application to process bulk and single cell RNA sequencing datasets

FARMULATOR, *Brown University, Providence, RI May. 2020*
- Java implementation of a full-stack farming simulator game using Spark, SQLite, and React.
- Implemented the backend and all the database queries as well as the connection between the front-end and the back-end
- Development of the front end using React in order to allow user interaction with map and game world

BONE SUPPRESSION, *Brown University, Providence, RI Dec. 2020*
- Python implementation of deep learning project using Autoencoders and pix2pix in order to remove bone shadows from x-ray images for disease classification

Leadership & Volunteer Experience

YAI, *New York, NY Jul. 2024 – Present*
- Volunteer in helping to set up various activities with children and adults with intellectual and developmental disabilities

Youth Justice Board, *New York, NY Sep. 2017 – May 2018*
- Facilitator and advocate in the reforms of the homeless youth in the city of New York
- Assisted in creating reform efforts for the policies pertaining to homeless youth through group presentations and focus groups

Skills & Interests

COMPUTER: Beginner: C++, x86 Assembler Language,
Intermediate: Flask, JavaFX, Pytorch, Keras,Javascript, C, SQL, HTML/CSS, NextJS/React
Advanced: Python, Java
INTERESTS: Orthopedics, Pain Management, Machine Learning, Software Development,Neurology, Cell Biology, Cancer Research, Bash Scripting, Computational Biology, Genetics, Stocks and Investment, Compilers, Operating Systems, Graphic Design