Rimika Dhara

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Education

University of Minnesota, Twin Cities - *College of Science and Engineering* **Expected Graduation: May 2025**
B.S. in Computer Science and Data Science GPA: 3.8/4.0
Relevant coursework: Algorithms, Data Structures, OOP, Computing Systems, Linear Algebra & Diff. Eqs., Physics

Experiences

University of Minnesota - Dept. of Biomedical and Mechanical Engineering ***November 2021 - Present***
- Researched with the BioSensing and BioRobotics Laboratory under Dr. Kodandaramaiah, working on the Spatial Transcriptomics project that automates microinjections in single cells
- Trained YOLOv5 object detection model to automate cell detection and conduct robotic microinjections via single cell transcriptomic profiling

University of Minnesota - Dept. of Aerospace & Mechanical Engineering ***Summer 2019***
- Researched with the High Altitude Ballooning team under Dr. Flaten, working to build a low budget replica of the UMN Satellite Team's SOCRATES spacecraft – MOC-SOC
- Programmed and tested microcontrollers (Arduinos, Raspberry Pi) and operated on several sensors (GPS, Temperature, Potentiometer, Barometric Pressure, SD-logging) for MOC-SOC

Personal Projects

Smart Mirror
- Programmed and automated a two-way mirror that displays time, weather, personal calendar, school assignments, holidays and daily affirmations
- Reconfigured the Magic Mirror Software to customized mirror to display relevant information with Raspberry Pi and Python

Pulse Rate Monitor
- Programmed Arduino with C++ to sense and graph the user's pulse rate and signal any abnormalities through an LED

ORION - Safety Device
- Created emergency tracker to send an SOS message containing the user's exact location and time to a Discord server of their emergency contacts through a click of a button with a Particle Photon microcontroller, a GPS sensor, and C++

Extracurricular

Engineering World Health *// Design Competition - Motor and Circuit Design Team* ***October 2021 - Present***
- Worked with a team to build a cost-effective Intravenous Pump, inclusive of all skin colors and skin types
- Utilized C++ and Arduino to operate DC motors, peristaltic pump, and create an air-bubble sensor from scratch

Junoon - Premier Bollywood Fusion Competitive Dance Team *// Manager* ***May 2021 - Present***
- Competed at non-profit National level competitions in Philadelphia, Austin, Atlanta, and San Diego
- Rehearsed for 10+ hours per week to organize a set that consisted of several dance styles such as hip-hop, kathak, bhangra, bollywood, bharatnatyam, contemporary, kuthu, etc.

Indian Student Association *// Affiliate Liaison + SAP Committee Member* ***February 2022 - Present***
- Represented and promoted Indian culture at several affiliate cultural events while actively promoting their activity
- Secured and leveraged relations within other South Asian student organizations on campus

Volunteering

Science of Spirituality Meditation Center *// Pre-teen Teacher, Speaker* ***June 2018 - Present***
- Spent 4hrs/week creating lesson plans and teaching about meditation and its benefits to children under the age of 16
- Conducted several discourses to spread awareness about mental health and stress management for teenagers

Science Museum of Minnesota *// TinkerMake - Exhibit Manager* ***March 2018 - January 2020***
- Volunteered for 75+ hours to build and conduct fun, tech-oriented activities for children that promote scientific curiosity

Skills

Technical Skills: C++, Python, Java, Arduino, Raspberry Pi, Matlab, HTML, CSS, JS
Languages: Hindi, English, Bengali, French