Debanik **Purkayastha**

BME/CS Student · Healthcare and Technology Enthusiast

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Education

Johns Hopkins University — *Baltimore, MD*

B.S. in Biomedical Engineering, B.S. in Computer Science (GPA: 3.61) — *Aug. 2016 - Exp. May 2020*

- Dean's List 5/6 Semesters
- Biomedical Data Science, Computational Cardiology, Computational Neuroscience, Computer Networks, Introduction to Machine Learning

Experience

Medtronic - CRHF Software Solutions — *Minneapolis, MN*

Software Engineering Intern — *May 2019 - Present*

- Working with web-based localization team to develop web application to improve interaction between Medtronic developers and country-specific linguists.
- Developed state management functionality to allow for integration of business logic across shared applications.
- Utilizing C#, ASP.NET Core 2.2, Entity Framework and LINQ to create responsive and interactive web pages, while maintaining MVC architectural pattern.
- Demoing bi-weekly to product managers and consumers to attain feedback and implement new features.

Talaris Health — *Baltimore, MD*

Co-Founder and Technical Lead — *Apr. 2018 - Present*

- Leading technical development of a remote patient gait analysis tool for neurological patients alongside cross-disciplinary team.
- Utilizing Swift, Firebase, Apple's CareKit framework and CoreMotion API to process motion data from iOS device hardware.
- Implementing Agile methodologies into technical team workflow, through bi-weekly sprints and regular scrums.
- Awarded VentureWell E-Team Stage I Award; Finalist in CBID Healthcare Design Competiton

Singapore Institute of Neurotechnology (SINAPSE) — *Singapore, Singapore*

Research Intern — *May. 2018 - Aug. 2018*

- Generated extensive dataset using a real-time DVS camera for training of CNN classifier implemented using Keras for grasp recognition, increasing accuracy from 70% to 92%.
- Wrote camera projection algorithms in Python, translating pixel coordinates to real world coordinates for control of UR10 robotic system.
- Developed symmetry analysis algorithm on camera images using openCV image processing techniques to assist robotic grasping routine.

JHU PILOT Program — *Baltimore, MD*

Physics 2 PILOT Leader — *Sept. 2017 - Present*

- Leading a section of peer-facilitated learning for courses offered to undergraduate students of all years.
- Leading sections of Physics 2 Electricity and Magnetism during the Fall and Spring semesters.

Projects

SafeLocal — *Baltimore, MD*

JHMI Anesthesiology Dept. — *Jun. 2018*

- Worked in collaboration with Johns Hopkins anesthesiologists to create an iOS app allowing surgeons and anesthesiologists to quickly determine safe dosages of commonly used local anesthetics.
- Used XCode 9 and Swift 4.
- App was released to iOS App Store under name SafeLocal.

Reliable UDP Transport — *Baltimore, MD*

Computer Networks Course Project — *Mar. 2018*

- Built a simple reliable transport protocol, RTP, on top of UDP in Python.
- Implemented sliding window mechanism, alongside Go-Back-N and Selective-Repeat protocols.

Skills

Languages Python, Java, C, C++, C#, Matlab, SQL, HTML, CSS, Javascript, Swift

Frameworks ASP.NET, React, Node.JS, CoreMotion, CareKit, Tensorflow