

Amritpal Singh

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Education

Johns Hopkins University

Baltimore, MD

B.S. IN COMPUTER SCIENCE AND APPLIED MATHEMATICS

Aug 2017 - (Exp.) May 2021

- **Relevant Courses:** Data Structures, Algorithms, Machine Learning, Deep Learning, Operating Systems, Natural Language Processing, User Interfaces and Mobile Applications, Parallel Programming, Computational Genomics, Probability, Statistics, Optimization

Work Experience and Research

Amazon Web Services

Seattle, WA (Virtual)

AWS COMMERCE PLATFORM - Software Development Engineering Intern

Jun. 2020 - Aug. 2020

- Designed and implemented canary to measure latency of production services.
- Metrics gained from Canary allowed team to optimize systems to reduce latency by 30%.
- Developed canary algorithm (Java), DynamoDB and S3 accessors (Java), JUnit tests (Java), and infrastructure (Typescript).

Johns Hopkins Institute for NanoBioTechnology

Baltimore, MD

WIRTZ LAB - Student Developer

Sep. 2019 - Mar. 2020

- Implemented deep learning methods for classification of parts of tissue in Python utilizing Pytorch framework.
- Obtained 96% accuracy using convolutional neural network.

Roomie Rentals

Baltimore, MD

HOPRENTALS - Campus Manager/Business Development Intern

May 2018 - Aug. 2019

- Developed a memory foam mattress rental company on Johns Hopkins campus. Raised sales by 60 percent.

Selected Projects

Ascend - Android Application

- Created a goal-oriented planning and scheduling Android application with a partner in Java.
- Carried out implementation of frontend, backend, and database of app which allows users to easily schedule their goals.

Applications of Bloom Filters in Determining Genome Variation

- Completed research project in a group of four members implementing and testing different bloom filters' accuracy in determining if a genome strand is present. Implemented in Python using PyUnit testing.
- Obtained 78% accuracy for testing if genome strand is present.

Pap Smear Classification from Whole Slide Images

- Implemented research project to perform segmentation of cells from slide images and then classification of abnormal cells from segmented cells using Pytorch.
- Performed ablation studies to cut down on CNN classification model size to 26% lower memory and 25% lower time strain while maintaining 90% accuracy.

Skills

Languages: Java, Python, C++, C, Typescript, Javascript

Technologies and Frameworks: Numpy, Pytorch, Android, DynamoDB, S3, Lambda, Fargate, CloudWatch, AWS Cloud Development Kit, JUnit, Mockito, Guice