

# Amritpal Singh

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## Education

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### 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

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### 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.
- Developed canary test (Java), DynamoDB and S3 accessors (Java), JUnit tests (Java), and infrastructure pipeline and Lambda (Typescript) to implement canary.

### Johns Hopkins Institute for NanoBioTechnology

Baltimore, MD

#### WIRTZ LAB - Student Developer

Sep. 2019 - Mar. 2020

- Implementing deep learning methods for classification of parts of tissue in Python utilizing Pytorch framework.

### 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

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### 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.

### Quora Insincere Questions Classification

- Used a Kaggle data-set of Quora posts and classified the posts as being insincere or not.
- Actualized a Convolutional Neural Network model in Python using Pytorch and torchtext.

### 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.

### Pap Smear Classification from Whole Slide Images

- Implemented research project in group of four 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 lower memory and time strain while maintaining 90 percent accuracy.

## Skills

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

**Technologies and Frameworks:** Numpy, Pytorch, Android, DynamoDB, S3, Lambda, Fargate, JUnit, Mockito, Guice