

# Abrar Fahim

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Edmonton, Canada

## EDUCATION

### University of Alberta Edmonton, Canada — MSc in Computing Science

Sep 2022 - Present

- Courses: Reinforcement Learning, Modern Search Techniques in Databases

### Bangladesh University of Engineering and Technology (BUET) Dhaka, Bangladesh — BSc in Computer Science and Engineering

Feb 2017 - Apr 2022

- Top Engineering University in Bangladesh (CS acceptance rate: ~ 2.5%)

## PUBLISHED PAPERS

### Unsupervised Space Partitioning for Nearest Neighbor Search Sep 2022

- Accepted for publication at the [26th International Conference on Extending Database Technology \(EDBT\)](#)
- Formulated a **differentiable loss function** to train any model to create balanced dataset partitions
- Implemented model in **PyTorch**, trained neural network in under **6GB GPU memory** for ~ **700-dimensional** datasets with **1 million points**
- Used our approach to speed up current state-of-the-art performance by **40%**

## EXPERIENCE

### Free Pixel Games Ltd Dhaka, Bangladesh — Junior Software Engineer

Dec 2020 - Jul 2021 (8 months)

- Created **web app** and wrote **complex SQL queries** to generate **reports** based on **input parameters**
- Reduced database access times from **minutes** to **seconds** by **pinging** the database for results, maintaining client states in backend, and **caching** third-party API data into company database
- Improved visuals of **3 games** with graphics team using **custom shaders** in Unity Editor

## PROJECTS

### Alfred — *Messenger bot for workplace collaboration* Mar 2020

- Conceptualized the idea of creating a personalized HR manager for employees
- Led a team of **three** and did **requirements analysis**

### Megaman — *Two-player fighting game* Mar 2018

- Made **animations** using **sprites**, coded **game physics**, handled **networking** between two players for real-time matches all from scratch using **Java** and **JavaFX**

## SKILLS

### Programming Languages

C | C++ | Java | Javascript | Python

### Frameworks and Tools

React.js | React Native | Angular | MySQL | PyTorch

## ACHIEVEMENTS

2021 - Google Hash Code 17th in Bangladesh / 72 local teams

2020 - Google Hash Code 17th in Bangladesh / 83 local teams

2015, 2016 - Outstanding Cambridge Learner Awards Scored highest marks in the UAE in AS and A-level exams in Math, Physics, Chemistry, and Biology