

# SIDHARTH BAVEJA

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## EDUCATION

Texas A&M University

College Station, TX

### Master of Computer Science

*Expected May 2024*

- **Relevant Courses:** Deep Learning, ML Based Cyber-Defense, Data Mining & Analysis, Intelligent Systems & Robotics
- **CGPA:** 4.0/4.0; Awarded **Department of Computer Science and Engineering Scholarship** (2022-2023, 2023-2024)

University of Waterloo

Waterloo, Canada

### Bachelor of Applied Science, Honors Electrical Engineering

*May 2022*

- **Relevant Courses:** Algorithms & Data Structures, Algorithm Design & Analysis, Cooperative & Adaptive Algorithms
- **CGPA:** 3.79/4.0 (87.1/100); Graduated **with Distinction**; Awarded **President's Scholarship**

## WORK EXPERIENCE

Amazon

Boston, MA

### Software Development Engineer Intern

*May – Aug 2023*

- Built a self-service benchmarking tool to measure & compare the inference latency of **Large Language Models (LLMs)**
- Designed for adaptability to support multiple inference engines; [AWS Neuron](#) ([AWS Inferentia](#)), [NVIDIA Triton](#) (GPU)
- Automated data feed of latency metrics & metadata to **Amazon Aurora (PostgreSQL)**, for performance analysis

Dell Technologies

Ottawa, Canada

### Software Engineering Intern

*Sep – Dec 2021*

- Developed acknowledgment & signal integrity modules for Physical Uplink Control Channel as per **3GPP** standards
- Enhanced Distributed Unit (DU) signal & performance metrics, reducing new feature development time by **33%**
- Designed Dead Code Analysis tools using **C++** compiler options & **Bash** scripts, removing **20K+** lines of unused code

IBM

Markham, Canada

### Software Engineering Intern

*Jan – Apr 2021, May – Aug 2020*

- Developed a **new compiler optimization**, loop fusion & peeling, in the [LLVM Project](#), an **open-source** project
- Created an algorithm that adds hot global variables to the Table of Contents, improving AIX performance by **3%**
- Coauthored a loop optimization pass (loop unrolling) which exploits the Power9 Cache and reduced misses by **20%**

Ciena

Ottawa, Canada

### Software Engineering Intern

*Sep – Dec 2019*

- Spearheaded the development of a progressive web app that enabled users to manage up to **25,000** Waveservers
- Refactored Waveserver CLI process algorithm that eliminated visual delay and reduced processing time by **90%**
- Transformed legacy CLI to [CLigen](#) for transition to a customized algorithm using enhanced **Python** scripting

Uptake

Mississauga, Canada

### Software Developer Intern

*Jan – Apr 2019*

- Built an automated reminder feature using **Angular** that sends emails to sales reps. regarding sales leads
- Redesigned CRM UI framework as part of Uptake brand refresh providing a standard interface across all products
- Wrote **SQL** scripts to migrate data from on-premises servers to **AWS**, saving **3 days** of manual effort

## PROJECTS

### Malware Detection & Evasion Competition

*Jan 2023 – May 2023*

- Built a Windows PE Malware Detection system using **Random Forests** and static malware analysis
- Developed **automatically generated** adversarial malware, evading detection **96%** of the time [Blog with more Details](#)

### Arrows: Indoor Navigation Mobile App

*May 2021 – April 2022*

- Designed a **React Native** app that determines a user's current location through **image similarity** and provides users with real-time directions to their desired destination via **augmented reality (AR)** [Video Demo 1](#) [Video Demo 2](#)
- Recipient of the University of Waterloo ECE **Medal of Excellence** for the 2022 Capstone Design Symposium

## LANGUAGES & TECHNOLOGIES

- Python (TensorFlow, Keras, Pandas, Sklearn, NumPy), C/C++, Docker, AWS, SQL, Bash, Git, Unix, JavaScript

## INTERESTS

- Fitness, Basketball, Baseball, Investing, Personal Finance