# 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