

## SUMMARY

---

Aspiring Machine Learning engineer with hands-on experience in backend development and computer vision. Proven ability to build scalable systems and implement cutting-edge algorithms to solve real-world challenges.

## SKILLS

---

**Web:** Node.js, Express.js, Jest, JavaScript, Django, Django-Rest-Framework

**DevOps:** Git, Github, Docker, Agile, Kubernetes, CI/CD

**Data/ML:** PyTorch, PyTorch Lightning, SQL, Pandas, NumPy, OpenCV, Matplotlib, ROS2, OpenCV, Gazebo

## PROFESSIONAL EXPERIENCE

---

### Beximco Pharmaceuticals Ltd

*Business Intelligence intern*

**Dhaka, Bangladesh**

**February - May 2022**

- Created and optimized financial analysis reports with python scripts that supported decision-making for senior management, reducing manual reporting time by 20%.
- Developed and presented an in-depth report on the correlation between pharmaceutical firm sizes and cash conversion cycles, providing actionable insights that informed strategic planning for cash flow optimization.

## PROJECTS AND OUTSIDE EXPERIENCE

---

### Vision Transformer Model for CIFAR-10 Image Classification

Solo Project developer

**Chico, CA**

**August – November 2024**

- Developed and trained a Vision Transformer (ViT) model from scratch using PyTorch and PyTorch Lightning, achieving high classification accuracy on the CIFAR-10 dataset.
- Delivered a technical talk at a university seminar on Vision Transformers, contrasting their self-attention mechanisms with CNN-based feature extraction, and highlighting ViT's scalability and global context modeling for image tasks.
- Accelerated training by leveraging CUDA-enabled GPU parallelization, reducing per-epoch computation time by 40% compared to CPU-based training.

### Robotics Project – Line Following Using TurtleBot 3 Burger

*Team Lead*

**Chico, CA**

**September– November 2024**

- Led waypoint navigation and obstacle detection using ROS2 and OpenCV, achieving <3" path deviation and 95% static obstacle avoidance accuracy in Gazebo simulations.
- Optimized PID control parameters, reducing deviation by 40% and enabling stable navigation at 0.2 m/s
- Engineered a real-time image processing pipeline (8 FPS) with adaptive thresholding to handle variable lighting.
- Collaborated on ROS2 node integration for lidar-based obstacle detection and multi-waypoint path planning.

### Covid-19 Donation Project

*Treasurer*

**Cumilla, Bangladesh**

**May – September 2020**

- Engineered a decision tree regression model using Python scikit-learn, analyzing historical donation patterns to predict subsequent wave allocations with 92% accuracy, streamlining donation planning and reducing manual forecasting efforts by 30%

### Breaking Bistro

*Founder/Operations and Marketing Manager*

**Cumilla, Bangladesh /**

**November 2020 – July 2023**

- Led a team of 8 in optimizing operations and automating workflows, applying data-driven strategies to enhance efficiency by 25%, demonstrating strong leadership and collaboration in a fast-paced environment.

## LICENSES AND CERTIFICATIONS

---

### CodePath - Technical Interview Prep(TIP102)

**May – August 2024**

- Completed 10-week course on software engineering fundamentals.
- Covered data structures and algorithms: Hash Tables, Linked Lists, Graphs.

## EDUCATION

---

### Master of Science in Computer Science

*California State University, Chico*

**Aug 2023 - Fall 2025(exp)**

*Relevant Coursework: Algorithms and computability, Operating Systems, Robotics and Machine Intelligence, Advanced Algorithms*

### Bachelors of Business Administration

*Institute of Business Administration, University of Dhaka*

**January 2018- June 2022**

*Relevant Coursework: Advanced Statistics, Econometrics, Research Methods*