Ishan Bhatt

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Education

Department of Computer Science, North Carolina State University   **January 2021 – December 2022**
Master of Science (Computer Science)   *Raleigh, North Carolina, United States*

    Grade Point Average (*current*): 4.0+ on a 4-point scale | Full tuition waiver (Graduate Student Support Plan - GSSP)
    Thesis Research: A Study on the Temporal Predictability of Serverless Functions | Phi Kappa Phi

Birla Vishvakarma Mahavidyalaya, Gujarat Technological University   **August 2015 – June 2019**
Bachelor of Technology (Computer Engineering)   *Vallabh Vidyanagar, Gujarat, India*

    Cumulative Performance Index: 9.29 on a 10-point scale | **GATE (Computer Science):** All India Rank – **1357** out of 99932 candidates

Experience

Walmart Global Tech - **eCommerce (AI End-to-End : Imagery & Rich Media)**   **May 2022 - Present**
Intern & (later) Senior Datascientist   *Bay Area, CA, United States*

- Worked on design, development and deployment of a project to improve the aesthetic appeal of images associated with Apparel products.
- ✓ Project had a **positive impact on 44% (1B items) of products** under the category: "Clothing, Shoes & Accessories"

North Carolina State University - **PICTure Research**   **June 2021 – December 2022**
Graduate Research Assistant - Machine Learning   *Raleigh, NC, United States*

- ✓ Worked on Applied-ML projects including: **Pre-season Hurricane Prediction, Day-ahead Net Load Forecast, AI basketball coach**
- ✓ Worked on Optimized Deep Learning and Natural Language Processing projects.

Tata Consultancy Services Limited - **Research & Innovation (Manufacturing)**   **January 2019 – December 2020**
Project Intern & (later) Systems Engineer - AI/ML   *Mumbai, MH, India*

- **Built ML-powered Fault Detection Systems for** Car Seats, Jet Engines (Vibration Detection using sound), Metal Welds (Visual Weld Strength Analysis), PCBs (Detect missing components from images), etc.; Integrated these with TCS's *Visual Cognitive Quality Assurance* suite
- ✓ Was usually responsible for proposing a new idea and deploying a PoC/Pilot application; **Completed over ten assignments**

Technical Skills   ** indicates working-knowledge*

Programming: Python 3, C++/C, JavaScript, Java*
Machine Learning: NumPy, pandas, scikit-learn, OpenCV, NLTK
Deep Learning: TensorFlow(1.x) + Keras, PyTorch*, CUDA*
Visualization: matplotlib, Seaborn, D3JS, tableau, dash.plotly

Web front-end: HTML 5, CSS 3, Bootstrap, JavaScript, ReactJS*
Web back-end: Python Flask, NodeJS, PHP, SQL, PySpark
Internet of Things: Arduino, Raspberry Pi, peripherals
Cloud/DevOps*: git, AWS, GCP, Azure, Docker

Projects

Terrain Recognition | *Deep Learning - Time Series Analysis*

- Built an Ensemble of 1D-Auto-encoders and Bi-LSTMs to perform Sequence-to-Sequence Classification for **continuous terrain prediction using data stream from sensors** (accelerometers and gyroscopes) **attached to a person's prosthetic lower limb**
- ✓ Achieved 93.5% weighted-mean F1-Score on the private leaderboard; **Stood 1st** (among $\approx$ 120 participants) in the competition

Human Pose Estimation (HPE) | *Deep Learning - Computer Vision*

- Built an HPE system taking inspiration from CPMs & SHMs; **Achieved 82% PCKh@0.5 which is 10% less than State-of-the-Art**

LAMP-stack website | *Web Development*

- Proposed, developed and maintained **a website for the National Cadet Corps unit hosted on college campus** from 2018 to 2020
- ✓ Was awarded **NCC Certificate of Excellence** for this work; Currently, NIC-India hosts a modified version

Maze Exploration and Navigation | *Reinforcement Learning; IoT*

- **Trained an RL agent** using Deep-Q-learning and Policy Gradient methods **to navigate through an uncharted region** on-the-fly
- Built a Raspberry Pi powered pilot-vehicle with LiDAR (for location tracking & obstacle detection) that could navigate in sparse mazes

Leadership / Extracurricular

Students' Core Committee (SCC), BVM Engineering College   *Member & Computer Engineering Branch Co-head*

- SCC organizes BVM's annual techno-cultural festival UDAAN; 5000+ participants from across the state are hosted on the BVM campus
- ✓ **Was directly responsible for conducting 4 events with $\approx$ 1000 participants**; Received **Spirit of Udaan award** for exceptional contribution

National Cadet Corps (NCC), 2 Composite Technical Company (NCC)   *Cadet & (later) Under Officer*

- ✓ **Was directly responsible for** ensuring proper training of $\approx$ 60 cadets; Proposed, developed and maintained a website for the unit
- ✓ Received **NCC Certificate of Excellence**; Received NCC Officers' Training Academy (Kamptee) **Certificate of Merit**, etc.

Writing

- ✓ Writer for Analytics Vidhya's Online Publication; **200+ hours of total read time** on my Medium blogs related to Machine Learning
- ✓ Active Writer on Quora since 2015; **$\approx$100K lifetime views** on my answers to questions related to various topics in Computer Science
- ✓ Contributed to most major campus periodicals at BVM; 4 of my non-technical articles were featured in various campus publications