YASH **JAKHOTIYA**

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EDUCATION

AUGUST 2021 – PRESENT

COMPUTER SCIENCE – MS, GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA

- Specializing in **machine learning**.

AUGUST 2016 - JUNE 2020

COMPUTER ENGINEERING – B. TECH, COLLEGE OF ENGINEERING, PUNE

- CGPA – **9.2/10**.

WORK EXPERIENCE

JULY 2020 – JULY 2021, MAY 2019 – JULY 2019

MEMBER TECHNICAL – QUANT SYSTEMS, D.E. SHAW, HYDERABAD

- Directly managed firm's on-prem 3000 Linux hosts responsible for compute intensive trading jobs.
- As a summer 2019 intern, **automated** internal infrastructural alert assignments using **machine learning**, with features derived from **natural language understanding** of alert descriptions.
- **Pushed to production** before end of the internship, reducing the workload of an entire team by **86%**.

JUNE 2020 – AUGUST 2020

GOOGLE SUMMER OF CODE STUDENT, KUBEFLOW, GOOGLE CLOUD PLATFORM

- **Kubeflow** helps machine learning practitioners **deploy workflows** on Kubernetes in a scalable manner.
- Demonstrated efficient use of all 6 components of Kubeflow with **ml pipelines** in well-crafted notebooks.
- Enabled new **customer onboarding**, bringing in **more adoption** of the product.
- Details of the project can be found at - https://yashjakhotiya.github.io/blog/

MAY 2018 – JULY 2018

RESEARCH INTERN, INDIAN INSTITUTE OF SCIENCE, BANGALORE

- Research and development work in **deep learning** for the institute's Video Analytics Lab.
- The project focused on **sequence-to-sequence modeling** with **generative adversarial networks**.
- Also systematized their **ml workflow**. The work led to a **research paper** after the end of the internship.
- Lab website – http://val.serc.iisc.ernet.in/valweb/

SELECTED PROJECT WORK

SEPTEMBER 2019 – MAY 2020

ADVERSARIAL ATTACKS ON TRANSFORMERS BASED MALWARE DETECTORS

- Implemented a novel **Transformers** based malware detector from arXiv:1909.06865v1**.**
- Showed its vulnerabilities to **adversarial attacks** with a **misclassification rate** of **23.9%**.
- Project source is at https://github.com/yashjakhotiya/Adversarial-Attacks-On-Transformers.

SEPTEMBER 2019 – OCTOBER 2019

UCSD ANOMALY DETECTION IN A SUPERVISED WAY

- Trained a **CNN Autoencoder** to learn latent space representations of images in the UCSD Anomaly Dataset.
- These latent space representations are then passed to a **two-layered LSTM** network to detect if a sequence of frames contains an anomaly.
- Project source is at https://github.com/yashjakhotiya/Anomaly-Detection.

JANUARY 2019 – MARCH 2019

TIME SERIES MODELING USING DEEP LEARNING

- Used a single-layered LSTM followed by fully connected layers on preprocessed **time series data**.
- Achieved a **mean squared error (MSE)** of the order of **10^-3** for a classification task on normalized data.
- Project source is at https://github.com/yashjakhotiya/Time-Series-Modeling-with-Credit-Suisse.

JANUARY 2019 – MARCH 2019

BOUNDING BOX PREDICTION AROUND A PRIMARY OBJECT IN AN IMAGE

- Transfer learning not allowed, trained a **CNN** from scratch as part of the Flipkart GRiD - 2019 contest.
- Achieved an **intersection over union (IoU)** of **0.8** on limited compute capacity.
- Project source can be found at https://github.com/yashjakhotiya/Flipkart-GRiD-Challenge-2019.

APRIL 2017 – MAY 2018

ONBOARD COMPUTER SUBSYSTEM, COEP'S 2ND STUDENT SATELLITE INITIATIVE

- Created a **BCH Error Correction** module for onboard memory to counter bit flips caused by space radiation.
- The team's last satellite was launched by **ISRO** in June 2016, and it successfully completed its objective.
- Project website - https://www.coep.org.in/csat/

SEPTEMBER 2017 – NOVEMBER 2017

SUPPORT FOR CTAGS IN A SMALL OPEN SOURCE EDITOR

- Extended bric, a small **open-source** editor with a tags-based code navigation functionality.
- The implementation uses **UNIX's Exuberant Ctags** and was **merged** into the editor source code.
- All my contributions to the editor can be found at shnupta/bric.

LEADERSHIP

SEPTEMBER 2019 – AUGUST 2020

INITIATING SECRETARY, ASSOCIATION OF STUDENTS OF CE AND IT, COEP

- **Took an initiative** to create a common **platform** for all students to interact and seek help from each other.
- **Organized** talks, contests and tutorials on competitive coding and open-source software.
- More details can be found at - https://www.coep.org.in/asci/events.html.

RELEVANT COURSEWORK

- **Georgia Tech** - Machine Learning with Limited Supervision research course with Prof. Judy Hoffman, Natural Language Processing, Computer Vision, and Deep Learning.
- **College of Engineering Pune - Perfect grade** in Algorithms, Computer Networks, Computer Organization, Databases, Data Science, Information Retrieval, Linear Algebra, Probability and Statistics for Computing, Theory of Computing, and other courses.
- **Online coursework** includes Stanford's CS231n and CS224n (YouTube), and Structuring Machine Learning Projects, Improving Deep Neural Networks and Neural Networks and Deep Learning (Coursera).

PROFESSIONAL SKILLS

- **Python** (PyTorch, TensorFlow, Keras, pandas, scikit-learn, NumPy, SciPy, Matplotlib, Seaborn, BeautifulSoup, Flask), **Puppet**, **Linux Shell Scripting, SQL**, **Matlab**, **C++** and **C**.
- Jupyter, Kubernetes, Docker, ELK, Prometheus, Grafana, Jenkins, Git, Phabricator and Confluence.
- Strong hold over **Machine Learning** (Computer Vision, Natural Language Understanding, Multimodal ML, and Adversarial Robustness), **Data Structures**, **Algorithms**, and **System Engineering** concepts.