YASH **JAKHOTIYA**

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EDUCATION

AUGUST 2021 – PRESENT

COMPUTER SCIENCE – MS, GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA

- GPA – **4.0/4.0**.
- Specializing in **machine learning** and **robotics**.

AUGUST 2016 - JUNE 2020

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

- CGPA – **9.2/10**.
- Minor in Financial Engineering.

WORK EXPERIENCE

MAY 2022 – JULY 2022

APPLIED SCIENTIST INTERN, AMAZON, PALO ALTO

- Worked with the **Visual Search and Augmented Reality** team on large-scale vision **transformers**.
- Improved Amazon's **Shop-the-Look** feature by utilizing high-attention patches in **image retrieval**.
- Feature is at https://www.amazon.com/stylesnap/. Team page - https://www.amazon.com/visual-search/.

JANUARY 2022 – PRESENT

GRADUATE STUDENT RESEARCHER, RIPL LAB, GEORGIA TECH

- Working with Prof. Zsolt Kira on **continual learning** and **novel category discovery** of **vision models**.
- Also worked on **model editing** of pre-trained **large language models**.
- **Teaching assistant** for **CS 4644/7643 Deep Learning** class.
- Lab website - https://www.cc.gatech.edu/~zk15/

JULY 2020 – JULY 2021

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

- **Deployed** an **RBAC** automation service for internal ELK (Elastic) stack as an ELK admin.
- Wrote base OCI images for **firm-wide Kubernetes setup**. Directly managed **on-prem** 3000 **Linux hosts**.

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.
- Details of the project can be found at - https://yashjakhotiya.github.io/blog/

MAY 2019 – JULY 2019

SUMMER INTERN, D. E. SHAW, HYDERABAD

- **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%**.

MAY 2018 – JULY 2018

RESEARCH INTERN, INDIAN INSTITUTE OF SCIENCE, BANGALORE

- Worked on **sequence-to-sequence modeling** of human motion 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/

RESEARCH PUBLICATIONS

NEURIPS 2022, DEEP REINFORCEMENT LEARNING WORKSHOP

IMPROVING ASSISTIVE ROBOTICS WITH DEEP REINFORCEMENT LEARNING

Yash Jakhotiya, Iman Haque

- Explored the use of an RNN policy and PPG learning to augment **assistive robotics** with **deep RL**.

NEURIPS 2022, MACHINE LEARNING SAFETY WORKSHOP

ADVERSARIAL ATTACKS ON TRANSFORMERS BASED MALWARE DETECTORS

Yash Jakhotiya, Heramb Patil, Jugal Rawlani

- Showed vulnerabilities in SOTA Transformers-based malware detectors with a **misclassification rate** of **23.9%**.

NAACL 2022, 16TH INTERNATIONAL WORKSHOP ON SEMANTIC EVALUATION

IT TAKES ONE TO KNOW ONE? IDIOMATICITY DETECTION USING ZERO AND ONE SHOT LEARNING

Yash Jakhotiya*, Ashwin Pathak*, Raj Shah*, Vaibhav Kumar*

- Implemented **BERT** Relation Networks for **few-shot learning** achieving an **85%** idiomaticity detection F1 score.

SELECTED PROJECT WORK

JANUARY 2019 – DECEMBER 2021

NATURAL LANGUAGE, COMPUTER VISION, TIME SERIES MODELING, AND OPEN SOURCE

- Contributed the first-known **PyTorch** implementation of the **KSG mutual information estimator** as a regularizer to **disentangle** ResNet representation space.
- Modeled **time series data** with Credit Suisse India and achieved an **MSE of 10^-3** on stock movement prediction.
- Extended shnupta/bric, an **open-source** editor with **UNIX's Exuberant Ctags**-based code navigation functionality.
- All project sources can be found at - https://github.com/yashjakhotiya/.

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/.

LEADERSHIP

SEPTEMBER 2019 – AUGUST 2020

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

- **Founded** a common **platform** for all students to encourage technical dialogue, and organized talks, contests and tutorials on competitive coding and open-source software - https://www.coep.org.in/asci/events.html.

RELEVANT COURSEWORK

- **Georgia Tech** - **Perfect grade** in ML with Limited Supervision research course with Prof. Judy Hoffman, Deep Reinforcement Learning for Intelligent Control, Natural Language Processing, Computer Vision, and SysML.
- **College of Engineering Pune** - **Perfect grade** in Algorithms, Databases, Data Science, Computer Organization, Information Retrieval, Computer Networks, Linear Algebra, Probability and Statistics, and Theory of Computing.
- **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** (JAX, PyTorch, TensorFlow, Keras, HuggingFace, pandas, sklearn, NumPy, SciPy, Matplotlib, Seaborn, Flask), **Scala, Puppet**, **Linux Shell Scripting, SQL**, **Matlab**, **C++** and **C**.
- Jupyter, Kubernetes, Docker, GCP, Kafka, ELK, Prometheus, Grafana, Jenkins, Git, Phabricator, and Confluence.
- Strong hold over **Machine Learning, Data Structures**, **Algorithms**, and **System Design** concepts.