Srihari Vemuru

Email: Vemuru.Srihari@iiitb.ac.in | Ph: +91 9080711571 | LinkedIn: Srihari Vemuru | Github: vemshari27
Website: https://vemshari27.github.io/srihari_vemuru.github.io/
26/C IIIT Bangalore, Electronic City, Bangalore, India

INTERESTED RESEARCH AREAS

Computer Vision, AI, NLP, Machine Learning

EDUCATION

International Institute of Information Technology Bangalore   Bangalore, India
Integrated Master of Technology in Computer Science and Engineering; CGPA: 3.35/4.0   *Expected July 2022*

MENTORSHIP

Teaching Assistant for Machine Learning at IIIT Bangalore   Bangalore, India
under Prof. Dinesh B Jayagopi   *Aug 2021-Present*

- Taking doubt sessions on machine learning concepts and training students in visualising data and implementing models.

RESEARCH EXPERIENCE

Internship at Polytechnique University, Montreal, Canada   May 2021 - Aug 2021
Mitacs Globalink Research Internship   *Prof. Nicolas Saunier*

- Analysed safety standards of Autonomous Vehicles using object detection and tracking.
- Trained DeepSORT and YOLO models on custom dataset and compiled HOTA and MOTA tracking results.

Internship at LightMetrics   June 2020 - Aug 2020
Start-up in Video Analytics for Road and Driver Safety

- Devised novel methods for road signs and vehicle detection.
- Participated in the integration of successful models in company's proprietary applications.

Internship at Indian Institute of Technology, Delhi   Oct 2020 - May 2021
I-Hub Foundation for Cobotics (IHFC), IIT Delhi   *Prof. Bodhditya Santra*

- Examined quantum computing algorithms to solve Maximum Clique Problem.
- Developed a quantum annealing algorithm to solve Travelling Salesman Problem on a rydberg atom quantum computer.

PROJECTS

Understanding Social Behavior in Dyadic and Small Group Interactions   Aug 2021-Present
ICCV Challenge   *Multimodal Perception Lab*

- Using blink retrieval algorithms to recognise the personality of a person from multimodal input.
- Programmed a model with facial landmark predictor, video feature extractor, VGGish and visual transformer for respective modalities of inputs.

[Handling Complex Queries Using Query Trees](#)

Information Retrieval Journal

Aug 2020-Dec 2020

Prof. Shrisha Rao

- ○ Created, in a team of two, a search engine middleware tool called PTGQ. PTGQ parses a complex search query into simpler queries, progressively queries them and outputs the final result.
- ○ Performance of PTGQ tops the SoTA by more than 30% on a metric specifically formulated for the task. Work submitted to Springer IR Journal. Paper under review.

Precision Learning for Enterprise

Aug 2020-Dec 2020

Web Sciences Lab

- ○ Contributed in the navigated learning project of Web Sciences Lab. Navigated learning implements precision learning, by computing a variety of semantic embeddings.
- ○ Built a model which creates a competency map given a input corpus of learning resources.

Inferring Student Engagement Using Unsupervised Domain Adaptation

Nov 2019-Dec 2019

Multimodal Perception Lab

- ○ Devised a model for predicting the engagement levels of students in a classroom using visual recognition and unsupervised domain adaptation.
- ○ Used unsupervised domain adaptation models for training like Joint Adaptation Network (JAN) and Wasserstein Generative Adversarial Networks (WGAN).

ASMCBot

Apr 2020-May 2020

Smart India Hackathon

- ○ Built a chatbot, *ASMCBot* (Affect Sensitive Medical ChatBot), and a medical portal with hospital location finding functionalities for helping people during COVID-19.
- ○ Developed an model which uses BERT to represent a query and compares it with a question bank using cosine similarity.

Skills

- **Languages**: Python, C, C++, Java, SQL, JavaScript, CSS, HTML, Verilog(Hardware)

- **Frameworks**: PyTorch, TensorFlow, Keras, FastAPI, Django, Node.js, React.js, OpenCV, Darknet, dlib, Scikit-Learn, Matplotlib, Seaborn

Additional Experience and Achievements

- **ACM ICPC**: Qualified for ACM ICPC regionals level in 2021.
- **ACM India Summer School**: Volunteered to organise a workshop on algorithmic and theoretical aspects of machine learning during the summer of 2019.
- **Quadcopter Project under Robotics Club**: Worked in a team to build a drone intended to guide people during fire hazards.
- **WinDrop**: Worked in a team to build a web platform to share files amongst trusted devices of the same user.
- **Certificate from Ministry of Human Resource Development, Government of India**: For 10/10 CGPA in Central Board of Secondary Education(CBSE) 10th grade (High school).