Abhijit Balaji

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Education

- **The University of Texas at Dallas.** Dallas, Texas
  Master of Science in Computer Science *Dec. 2021*
- **VIT University** Vellore, India
  Bachelor of Technology in Mechanical Engineering *May. 2017*

Skills

- **Languages**: Python, C/C++, Java, Matlab
- **Domains**: Computer Vision, Natural Language Processing, Multi-Modal Representation Learning
- **Machine Learning Libraries**: TensorFlow, Keras, PyTorch, SpaCy, Thinc, Scikit-Learn
- **Technologies**: Spark, PySpark, Big Data, Microservices, Docker, MongoDB, gRPC, ReST, Git
- **Cloud**: AWS, GCP, Azure, Paperspace
- **Design Softwares**: Solidworks, ANSYS

Work Experience

- **Adobe Inc.** San Jose, California, USA
  Machine Learning Intern *May 2021 - Aug 2021*
  - Worked on "Fine Grained Multi-Modal Representation Learning".
  - Built a fine-grained text to image retrieval system for Adobe Stock which is significantly better in fetching relevant images for semantically rich queries.
  - Created a novel training methodology which improves the performance of CLIP (OPENAI) model using Denotation Graphs.

- **Samsung Research America - Think Tank Team** Mountain View, California, USA
  Machine Learning Research Intern *Aug 2020 - Dec 2020*
  - Conducted research on Image Relighting.
  - Developed deep learning models for Image Relighting which runs real time on Samsung smart phones - comparable to the Google Pixel 5 Portrait Lighting mode.
  - Programmed a Python library for interacting with AWS S3 for efficient storing and retrieval of data while conducting large scale machine learning experiments.

- **The University of Texas at Dallas** Dallas, Texas, USA
  Research Assistant *May 2020 - Aug 2020*
  - Created forecasting models that optimized the bidding plans for an energy generating/battery company.

- **Straive** Chennai, India
  Data Scientist *Jul 2018 - Jun 2019*
  - Built an AI system that describes chart images which in turn enhances the online accessibility for the visually impaired.
  - Designed and deployed a CNN based tagging system for Bio-Medical research papers that enhanced the search capability of Elsevier's search engine.

- **Endotherm Fluids India Pvt LTD** Chennai, India
  Data Science Engineer *May 2017 - Jun 2018*
  - Developed and deployed a CNN based machine vision system that detects surface defects in metal components.
  - Managed and oversaw a team that engineered an entire robotic conveyor system that uses the above AI machine vision system to conduct quality inspection.
  - Helped launch a startup company "JIDOKA Technologies" that provides AI based custom machine vision solutions based on the above research.