K A N I S H K T E J A S S H A H

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EDUCATION

Bachelor of Engineering: Computer Engineering, Specialization in Artificial Intelligence/Machine Learning
College Name: Dwarkadas J. Sanghvi College of Engineering, University of Mumbai
Current Aggregate: 9.32/10.0.

RESEARCH PAPERS

- **Conference Name:** IEEE Cloud Summit 2021, New York.
  Authors: Kanishk Shah, Prof. Khushali Deulkar (Guide)
  Conf type, Status: Peer reviewed; Awaiting publication
  Paper Title: Lightweight Apparel Classification with Residual and Inverted Residual Block based Architectures
  Paper Type: Research Paper
  Uses a hybrid optimization strategy to reduce training time and improve performance; leverages residuals, inverted residuals, split attention; better performance than previous approaches and comparable to multi task learning while increasing inference speed by 4.5 times and using 20 times fewer parameters. Allows for embedded applications.

- **Conference Name:** International Conference on Advances in Computer Engineering and Communication Technology
  Authors: Nemil Shah, Kanishk Shah, Jay Bhatia, Nimit Vasavat, Dr Pratik Kanani (Guide)
  Paper Title: Ultrasound Nerve Image Segmentation using Attention Mechanism
  Paper Type: Research Paper
  Segmentation of the Ultrasound cross section of the Brachial Plexus to reduce risks during surgery and anaesthesia. Reduces chances of nerve trauma, block failure, nerve block and intraneural injections.

TEACHING EXPERIENCE

Name of Company: Dwarkadas J. Sanghvi College of Engineering
Duration: From June 2021 to December 2021
Title: Teaching Assistant

- Keeping practical curriculum up to date; using case studies to help students grasp industry issues and apply techniques effectively.
- Teaching students occasionally; grading assignments; conducting office hours

INTERNSHIPS

1. **Name of Company: Dimensionless Tech, Navi Mumbai, India** **April 2021 to July 2021**
   Title: Computer Vision Intern

- Conduct Research for detecting flaws in solar panels based on infrared orthomosaics
- The Research involved removal of drone-captured overlap distortion, noise and effective fine-grained object detection of small objects; Involved pipelines of Image processing and Deep Learning Models.
- Detection of hazardous objects from X-Ray scans for the Airport Authority of India
- Optical Character recognition of information from overexposed medicine tablet casing images

2. **Name of Company: Resolute AI Labs: Anjar, Gujarat** **March 2021 to June 2021**
   Title: Machine Learning Intern

- Independent research on few-shot learning, meta transfer learning for industry applications.
- Classification, Segmentation and real time detection of garments, defective garments and textiles through high-power electric looms.
- Tracking and counting packages automatically during transferrals.
- Regressive analysis of welding fuel constituents for large oil pipelines; Cryptocurrency factor analysis.

3. **Name of Company: Artenal, Vancouver, Canada** **September 2020 to February 2021**
   Title: Machine Learning Intern
- Worked on the analysis of real estate growth in Vancouver and automating harvesting in orchards
- Leading a team to work on various end to end applications in Computer vision and multi-modal recommendation systems for job portal and travel companies; Presentations and meetings with clients

4. **Name of Company: peAR, Mumbai, India** **January 2019 to March 2019**
   Title: App development intern
- Worked on close range stereophotogrammetry of reflective objects
- Automating blender workflows; developing the app UI

PROJECTS

- **Final Year Project** (Ongoing - 2022)

1. **Title:** Priority based Traffic Management System
   Details: Introduces the challenge of Emergency and High Priority Vehicles to the problem of Traffic Signal Control Ideated, conceptualized and leading the team.

2. **Title:** Fourier Recurrent Units implemented from scratch
   Details: Implements FRUs and demonstrates their ability to deal with the vanishing gradient problem. Final year project of the AI/ML specialization course undertaken in partnership with IBM.

3. **Title:** Generative Adversarial Networks and Denoising with Celebrity Images (August 2020)
   Details: Generating fake celebrity faces with Style GANs, DC-GANS. Denoising removed noise interference and improved image resolution in an unsupervised manner.

4. **Title**: Pulmonary Fibrosis Progression (August 2020)
   Details: Predicting lung function decline from CT scans. Stood within the top 10 percentile on the private Kaggle leader board.

5. **Title**: Stereovision demonstration (June 2020)
   Details: Computer graphics coursework project demonstrated multi-view stereo vision.

6. **Title**: Placement Portal of the college (May 2020)
   Details: Tracking and managing of on campus placements

- **INDUSTRY PROJECTS:**
  Title: Predictive modelling for Automotive Component Failure; (February 2021)
  Introduced a causal approach for identifying problems when AutoML approaches failed to capture correlation
  Noticed data inconsistencies with large impact on and outside the project

TECHNICAL SKILLS

- **Languages**: Python, C, C#, C++, Java, JavaScript
- **Database**: SQL, MySQL, PostgreSQL, MongoDB
- **Tools and Frameworks**: Pytorch, OpenCV, Azure, AWS, GluonCV, TensorFlow, Keras, mmdetection, NumPy, Pandas, Seaborn, Tableau, Matplotlib, Django, Flask, Selenium, Scrapy, Confluence, Git

CO-CURRICULAR ACTIVITIES

- **DJ Unicode Mentor 2019-2022**
  - Mentoring underclassmen for several projects; In charge of recruitment.
  - Supervising the website creation for a blind school; worked on the college's placement portal in 2020

- **ACM Co Infotech head 2019-2020**
  - Working on an Alumni Chat application, conducting workshops and events.

- **Codestars 2019-2020**
  - Teaching around 70 first-year students on topics of data structures and algorithms