# Shreyas Bhat Kera

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## EDUCATION

**BITS PILANI, PILANI CAMPUS**
B.E. IN COMPUTER SCIENCE
07/2018 – 05/2022
CGPA: 8.86

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## SKILLS

· **Python** · **Java** · **PyTorch** ·
**TensorFlow** · **Scikit-Learn** · **Pandas** ·
**Numpy** · **Flask** · **Docker** · **Latex** ·
**NBGrader** · **Deep Learning** ·
**Computer Vision** · **Machine
Learning** · **Image Processing**

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## PERSONAL PROJECTS

### LARGE SCALE BACKGROUND REMOVAL DEMO

· Demonstration with over 100 stars on GitHub to show how the deep learning salient object detection model U-2-NET can be used for background removal, changing backgrounds, bounding box creation, salient feature highlighting, and salient object cropping.

### PERSONAL FACE MASK DETECTION

· Determines whether a user is wearing a face mask or not using a 2-factor neural network approach written in Python with TensorFlow and OpenCV modules.

### OPTIMAL CLUSTER PYTHON PACKAGE

· Python package containing implementations of various algorithms using scikit-learn to find the optimal number of clusters.

## RESEARCH

### HUMAN ACTION RECOGNITION IN VIDEOS          12/2020 - PRESENT

· Innovating novel deep learning architectures using techniques like Attention for improving performance for Human Activity Recognition in Videos using multiple GPUs. Research paper is currently being reviewed at a reputed conference. Concurrently working on a multi-modal input methodology for martial arts recognition.

· Working under the supervision of Dr. Kamlesh Tiwari of BITS Pilani's CS Department, Dr. Hari Pandey of Edge Hill University, UK, and Santosh Yadav, Ph.D. Scholar at CSIR-CEERI, Pilani.

### OBJECT DETECTION IN THERMAL IMAGES          08/2020 - PRESENT

· Currently working with Dr.Jennifer Ranjani J, formerly of BITS Pilani's CS Department, to analyze and formulate innovative frameworks for Object Detection (specifically pedestrian) in Thermal Images for applications such as security and self-driving cars, especially in night-time conditions. The work has culminated in a paper titled 'A Paced Multi-Stage Block-Wise Approach for Object Detection in Thermal Images' which is currently under review for publication at The Visual Computer.
· Concurrently working under the supervision of Dr.Poonam Goyal and Ph.D. Scholar Divya Bhardwaj on a comprehensive survey of object detection methodologies in thermal images. Paper currently being written.

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## WORK EXPERIENCE

### SDE INTERN | PUBLICIS SAPIENT          05/2021 – 07/2021

· Worked on the PS Smart Hire product, a Resume Parsing, and automatic Candidate Screening solution. My focus was to implement new strategies to improve overall parsing capabilities. My team, using Agile methodology, devised new discrete functionalities such as using Object Detection models like YOLO and Page 2 OCR tools like Tesseract to capture text, and NLP models like BERT to extract relevant information. To tackle scalability concerns for large-scale deployment use cases with over 10,000 resumes, we used an ML-ops pipeline composed of AWS services Lambda, EC2, S3, and SQS. I designed a classifier that attained over 96% accuracy for the given resumes.

### MACHINE LEARNING INTERN | INFOR GLOBAL          05/2020 – 06/2020

· Worked on Infor's Vendor Rating System for analyzing vendors in the healthcare domain. My task was to develop Supervised and Unsupervised ML-based solutions for measuring vendor performance. I focused on several aspects of the pipeline including engineering appropriate features for better classification, selecting, and fitting relevant models, deployment

## DRONE IMAGE DETECTION FROM RASPBERRY PI
• Person Detection using TensorFlow from Raspberry Pi images on the Cloud with Flask-based UI.

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## COURSEWORK
**Neural Networks & Fuzzy Logic (currently a Teachers' Assistant)**
**Data Structures & Algorithms**
**Object Oriented Programming**
**Digital Image Processing**
**Internet of Things**
**Operating Systems**
**Probability & Statistics**
**Computer Networks**

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## ONLINE COURSES – COURSERA
**Deep Learning Specialization (5 courses)**
**Applied Machine Learning in Python**
**Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning**

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## SCHOLARSHIPS
Awarded the BITS ISA Scholarship worth 80% of tuition fees given to the top 4% of international students based on merit for 6 consecutive semesters.

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## LINKS
**GitHub:**
github.com/shreyas-bk
**LinkedIn:**
linkedin.com/in/shreyas-kera-0277 27178
**Medium:**
medium.com/@shreykera7

using Docker, and easy-to-use UI with Flask. Attained benchmarks for over 30 vendors based on 1000's of transactions and produced a ready-to-use rating system for future use.

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## OFFERS AND ACCEPTANCES

### THESIS AT HARVARD VCG                    FROM 01/2022
• Accepted for a 6-month thesis at Harvard University under the guidance of Dr. Hanspeter Pfister and Ph.D. candidate in CS Zudi Lin. The research will involve the exciting work of Deep Learning for Biomedical Image Segmentation. I will be working in the university's Visual Computing Group (VCG) with students from across the globe and has numerous publications in journals and conferences like CVPR, ICCV, ECCV, BMVC, etc.

### FULL-TIME OFFER + INTERNSHIP AT CISCO SYSTEMS
• Offered a full-time Software Development role at Cisco, along with the opportunity for a 6-month internship. Fundamentals of Computer Science including Data Structures and Algorithms, Computer Networks and Operating Systems were rigorously tested over the course of a coding round and multiple technical interviews, in order to be one among the three students in my institute to be offered the role.

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## STANDARDIZED TEST SCORES
• **GRE**: **336**/340 (Verbal - 166 [97th percentile], Quantitative – 170 [96th percentile], Writing – 5 [91st percentile])
• **TOEFL**: **118**/120 (Reading – 29, Listening – 29, Speaking – 30, Writing - 30)

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## EXTRACURRICULAR ACTIVITIES
• **DEPARTMENT OF SPONSORSHIP AND MARKETING -** Communicated with professionals from various domains in order to raise sponsorship money for the college's sports fest. Led and instructed juniors to organize a successful fest.
• Contributing to Open Source
• Participating in Competitive Programming events
• Playing Piano, Table Tennis, Go-Karting