# SHRAVAN CHANDRA

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#### **EXPERIENCE**

## Software Developer

Aug 2021 - Present

Bangalore, IN

Bosch Global Software Technologies

- Rewrote legacy **VBA** code in **Python** and refactored it to make the system more extensible.
- Developed web-scraping tools with **Python** to collect, analyze & compare components for ECUs. The tool was able to reduce the manual work by 80%.
- Involved in developing automation tools using **Python** for **SAP** & other internal assignments, currently used by **25**+ people reducing the time expense by **60**%.
- Spearheaded the development of 15+ algorithms to extract required data from LST files to understand the connections on a PCB, identify redundant components, estimate price and suggest replacements. An improvement of over 30% in accuracy over the previously used algorithms and a 45% reduction in time requirements.

# Junior Analyst Intern

Goldman Sachs

Jan 2021 - July 2021 Bangalore, IN

- Collaborated on developing models and analytics using **SQL** & **R** to understand how risk decisions influence new/existing products, determining risk policies, and pinpointing inefficiencies in risk operations.
- Implemented web-scrapping tools with **Beautiful Soup** to automate cross-verification of documents for faster bookings of trades. This CLI app was able to reduce the time expense by **65**%.

## RESEARCH PROJECTS

Dynamic Sign Language Translator ♂ — PAPER PUBLISHED @ IEEE ♂

- Developed a real-time translator to identify the dynamic hand gestures and interpret them using a camera. The model can interpret 15 distinct gestures and translate them to any language with 92% accuracy.
- Created using **OpenCV**, **MediaPipe** & **XGBoost**, the dataset and the models are **open-sourced** for snow-balling support from the community and quicker adoption.

# Diabetic Retinopathy with XAI ♂

- Constructed an **Xception** model for retinopathy severity level classification using **TensorFlow**, with **OpenCV** for processing the retina fundus. Attained 96% Kappa Score and 93% accuracy, 10% more than the baseline.
- Pipelined the classifier with **Grad-CAM** to create saliency maps on the fundus and highlight prominent features like hemorrhages, exudates & microaneurysms for enhanced reliability.

#### Offensive Speech Detection

• Built a hierarchical multitask learning model with adversarial training using **Keras** & **NLTK**. Improved the scores by **6**% using transfer learning using Sentiment Analysis data correlating sentiment and offensive speech.

# Low-Light Object Detection ♂

• Implemented an end to end object detection model using Zero-DCE and YOLOv3, built using **PyTorch** & **OpenCV**. Achieved **10%** improvement in mAP score compared to vanilla YOLO.

#### **EDUCATION**

Bachelor of Technology in Electrical & Electronics, PES University —  $8.49\,$ 

2017 - 2021

CNR Rao Scholarship Awardee. MRD Scholarship Awardee.

## **SKILLS**

Languages

Python, Java, HTML/CSS, JavaScript, SQL, R

Technologies TensorFlow/Keras, PyTorch, Scikit-Learn, OpenCV, NLTK, Git, PostgreSQL, Excel, Linux