# Sree Bhargavi Balija

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## Education

**University of California San Diego** **March 2024**
*Master of Science in Machine learning and Data science* ***CGPA: 3.5/4.0***
**Indian institute of Technology Hyderabad** **July 2020**
*Bachelor of Technology in engineering* ***CGPA: 9.1/10***

## Technical Skills

**Languages**: C/C++, Python, Java, Javascript, Angular, Kotlin, Prolog, Perl
**Web Technologies/Frameworks**: Google cloud, Android DB, Andriod studio, Docker, Firebase
**Databases**: Oracle SQL, MySQL
**Data Science:** Bert language models, Classical ML, DL, NLP, Explainable AI, Federated learning, Computer Vision, Deep generative models

## Relevant Coursework

- Statistical learning
- Sensing and estimation
- Search and optimization
- Learning Algorithms
- Artificial Intelligence
- Deep generative models
- Data Mining

## Professional Experience

**ServiceNow, Software engineer** | *Java, Js, Angular, Eclipse, Github* **June 2020 – August 2022**

- Worked on integrating multiple rest api's with ITSM workflows for adding virtual bot capabilities like Citrix cloud virtual systems access, manage meetings and request item flow, also integrated the 10 topics with an NLU model for intelligent conversation flows driving 2 billion dollars of revenue every year.
- Designed and developed the success dashboard which provides a prebuilt analytics for 8 metrics like customer satisfaction score, cost savings etc to demonstrate the actual business value achieved through the top ServiceNow products.
- Streamlined the java code to demonstrate WebRTC screen share between Androids or Desktop browsers.

**Myhome, Business analyst** | *Matlab, Python, C++* **May 2019 – July 2019**

- Researched on various technologies like scrap iron optimization, digital elevation models in the industry and performed cost-benefit analysis for checking the feasibility of the solutions

## Academic Projects & Research Experience

**Federated learning clients side pruning through mixed precision quantization techniques** **Ongoing**

- Working on novel client sided mixed precision quantization technique which out performs the hessian awareness spectrum quantization technique in terms of inference speed. Developed new method using conformal predictions which selects the most efficient clients for better performance of global model
- Built gap acceptance model using dynamic and static gap for autonomous vehicles using federated learning
- Working on client pruning methods based on dynamic and mixed precision accuracies of clients in federated learning setup.

**Federated fine tuning of heterogeneous Large Language Models** | *Python* **Ongoing**

- Developing novel technique where a model is trained across multiple decentralized nodes (Edge devices), each with its own local data and this approach is beneficial for privacy and leveraging diverse data sources like autonomous driving vehicles

**Phone location detection** | *Colab, Python* [code] **Jan 2023**

- Developed a prototype of a visual object detection system using Resnet, VGG16 Architecture to detect the phones from given images within a radius of 0.05 (normalized distance) centered on the phone

**Interpretable Neural Additive Models to predict Coronary Heart Disease** | *Python* [code] **March 2023**

- In this project,we developed an interpretable ML model to predict if a patient has a 10-Year Risk of future coronary heart disease (CHD) to identify most relevant risk factors for heart disease
- Performed Comparative Analysis of Interpretable ML models vs State of the Art Models and observed that NAM had a better AUC score than DNN.

## Accolades/ Online Certifications

- **Academic excellence award**, IIT Hyderabad **2018**
- **Deep Learning and Natural language processing** specialization, Stanford completed 3 out of 5 courses. **2020**
- UCSD ECE **Summer research internship** scholar, UCSD **2023**
- **Teaching Assistant**, Introductory courses in physics and chemistry departments website management **2018**
- Silver medal, International Master **Mathematics Olympiad** **2013**
- Student entrepreneurship association, UCSD **2023**
- Representive of IITH in social online innovation collaborative **hackathon** **2020**
- Achieved Skill development incentive program award, **ServiceNow** **2021**