

# Shreenivas Bharadwaj Venkataramanan

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## Education

### University of California, San Diego

La Jolla, CA

M.S. IN COMPUTER SCIENCE | CUM. GPA: 3.88/4

Sept 2018 - June 2020 (**Expected**)

- Neural Networks, AI-Probabilistic Reason & Learning, Web Mining & Recommendation Systems, Natural language Processing

### National Institute of Technology, Trichy

Tiruchirappalli, India

B.TECH. IN COMPUTER SCIENCE AND ENGINEERING | CUM. GPA: 8.31/10

July 2014 - May 2018

## Skills

**Programming Languages** Python, C/C++, Java, Matlab, HTML, CSS, Java Script, Bash, SQL

**Frameworks and Tools** Pytorch, Tensorflow, CUDA/cuBLAS/Thrust, Flask, Jquery, Git, Android Studio

## Software Development Experience

### Google

Mountain View, California

SOFTWARE ENGINEERING INTERN | (C++)

June 2019 - September 2019

- Designing a back-fill system in the Google Assistant micro services infrastructure.
- Enabled a data push mechanism. Integrated the experimental framework into the system. Implemented a diffing method to measure the difference between two protocol buffers. Achieved 0% difference in the response path for 100% of the queries.
- Prototype testing and Launched the feature with an experiment controlled environment.

### Amazon

Chennai, India

SOFTWARE DEVELOPMENT INTERN | (JAVA, HTML, CSS, JAVA SCRIPT/JQUERY, SQL, BASH)

May 2017 - July 2017

- Designed an internal tool in the Kindle Digital Commerce Platform to expose the API safely to other teams.
- Reduced the overhead of querying time for listing book loans by roughly 50% using batch APIs. Used LDAP orchestrator for authentication. Implemented statistical tree summaries to save time in investigation.
- Used Amazon's build/test/deployment tools and successfully deployed the project.

## Research Experience

### Acceleration of Vector Auto Regression with GPUs

Indian Institute of Technology, Delhi

RESEARCH INTERN | (C++,CUDA/cuBLAS/THRUST, MATLAB)

July 2017 - Dec 2017

- Accelerated Vector Auto Regression models using GPUs and computed tight bound solutions for Lasso regression models.
- Achieved 650x speedup over the regular CPU code.

### Named Entity Recognition

International Institute of Information Technology, Hyderabad

RESEARCH INTERN | (PYTHON, TENSORFLOW)

May 2016 - July 2016

- Performed NER task using LSTM networks and Word Embeddings.
- Improved accuracy by 15% for Hindi. Achieved 90% accuracy in English. Published in ICON-2016 conference indexed in ACL.

## Projects

### ChatterBot - A Text Classifier Bot

University of California, San Diego

COURSE PROJECT | (PYTHON, DIALOGFLOW, PYTORCH, FLASK)

April 2019 - June 2019

- Implemented a Dialogflow chat bot which can classify text with Flask backend.
- Trained LSTM neural networks to classify text and deployed it in Flask. Designed a conversational flow for the Chat Bot. Implemented a delay response mechanism to handle latency for explanation queries. Optimized query latency by using cached models.
- Achieved 99% accuracy for the text classification tasks and a max query latency of 5s.

### Other Projects and Experiences

- Text to Image using LSTM and GANs, [Instrument Recognition using Pytorch](#), Game Strategies for GIPF game using Monte Carlo Tree Search, Dynamic MAC layer optimization using C++/NS2.
- Teaching Assistant @ UCSD for "Intro to Python" COGS 18'Spring.

## Publications

### Acceleration of Sparse Vector Autoregressive Modeling using GPUs

HIGH PERFORMANCE COMPUTING, DATA, AND ANALYTICS, IEEE

2019

### Dynamic Optimization of IEEE 802.11 DCF based on Active Stations and Collision Prob.

INTERNATIONAL JOURNAL OF DIGITAL INFORMATION AND WIRELESS COMMUNICATIONS

2017

### Towards deep learning in Hindi NER: An approach to tackle the labelled data scarcity

INTERNATIONAL CONFERENCE ON NATURAL LANGUAGE PROCESSING, ACL

2016