

# SANDEEP CHINDALUR BALAJI

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## EDUCATION

- **Arizona State University** Tempe, Arizona  
Master's in computer science (MCS) GPA: In Progress May 2020  
Coursework: Foundation of Algorithms, Intro to Theoretical Computer Science, Principles of Programming Languages.
- **BMS College of Engineering** Bangalore, India  
B.E Electronics and Communications GPA: 8.05/10 May 2015  
Coursework: Data Structures, Object Oriented Programming, Operating Systems, Computer Networks, Digital Signal Processing.

## WORK EXPERIENCE

### Machine Learning Engineer | Gnani Innovations (gnani.ai) Aug 2017 – July 2018 | Bangalore, India

- **Automatic Speech Recognition [Machine Learning, Python, Kaldi, Tensorflow, Linux, C++, Speech processing]**
  - Built Speech Recognition System for English on Indian accent using kaldi open-source framework with a Word Error Rate of 16%.
  - Developed custom interpolated language models for specific domains like Banking using SRILM, KenLM.
  - Designed programs for parallel execution of text cleaning on a corpus of over 1 billion lines using NLTK kit.
- **Speaker Diarization for telephonic conversations [Kaldi, Speech feature extraction, C++, Bash scripts]**
  - Developed application using kaldi for diarization of telephone conversations over the noisy environment. Based on i-vector extraction and clustering of those i-vectors.

### Software Developer- Database | Tata Consultancy Services Dec 2015 – Aug 2017 | Bangalore, India

- **Oracle Retail Applications [Oracle SQL, PL/SQL, Core Java, Oracle RMS]**
  - Implemented GST by developing PL/SQL programs for Oracle Retail application.
  - Developed procedures for defragmentation of all the schemas in an Oracle database on 800 GB data.
  - Redesigned the application for continuous integration and finance data flow between Oracle applications.

## PROJECT WORK

- **Sudoku Solver - Q learning** Oct 2017 – Nov 2017 | Bangalore, India
  - Basic sudoku solver using Reinforcement learning written in python. Built as a personal project using keras, pandas and numpy packages.
- **Blind Assist - Arduino** Aug 2014 – Jan 2015 | Bangalore, India
  - Built attachable device to a cane which guides and navigates while walking on streets through speech for Blind individuals. Tested and resulted with an accuracy of upto 75%.
  - The device was built using Arduino, Bluetooth which connects to an Android phone.
- **Automatic Start/Stop System for fuel efficiency** Aug 2014 – May 2015 | Bangalore, India
  - Built a working prototype that automatically starts and stops the four-wheeler during the idle time at parking/ traffic signals.
  - Surveyed fuel efficiency data through the streets of Bangalore and found that it was increased by 8%.

## TECHNICAL SKILLS

- **Languages and Libraries:** Kaldi, Tensorflow, Python, Keras, Shell scripting, Core Java, SQL, PL/SQL, Data Structures, C, C++, scikit-learn, numpy, Linux, Speech processing
- **Databases:** MongoDB, Oracle 11gR2, 12c, 10g MySQL, MS SQL, Postgres
- **Web Technologies:** HTML, PHP, CSS, JavaScript, Bootstrap
- **Tools/Framework:** Nginx, Apache, Tornado, Uwsgi, Python-flask, GIT, SVN, Docker, Kubernetes

## AWARDS

- **H.S Nagaraj and BSRT Endowment Scholarship** - Rotary Club Bangalore South, Bangalore
- **Foundation For Excellence Scholarship** - Foundation For Excellence, Bangalore
- **School Topper in Tenth Grade**- Awarded for securing 1<sup>st</sup> rank in public tenth grade in high school - Kolar, India