

TIRUPAL RAO RAVILLA

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SUMMARY

Dynamic and creative data scientist and software developer with over 4 years of industrial experience in producing robust code for high-volume companies, conducting novel customer-centric AI R&D, focusing on conversational AI and text analytics; and excelling at an array of skills from Data Science, ML/NLP, full stack development to integrations, builds and deployments for multiple projects.

EDUCATION

New York University, Tandon School of Engg, New York NY | **JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, INDIA** | 05/2012
Master of Science in Computer Science | 3.7 GPA | 05/2020 | *B. Tech in Computer Science & Engg.* | 72% / 3.3 GPA (96th percentile)

TECHNICAL SKILLS

Languages & Technologies: Java, Python, JMS, JavaScript, SQL, REST, JAX-RS, J2EE, JBoss Drools, Git, Gradle, Maven, JIRA
Web Technologies: AngularJS, VueJS, HTML5, jQuery, JSP, JSON, CSS | **Databases:** MongoDB, MySQL, OrientDB
Frameworks & Tools: Keras, TensorFlow, Scikit, UIMA, Mallet, CRFSuite, OpenNLP, NLTK, spaCy, OpenDial, Apache Tomcat, Apache Http, Flask, NuxtJS, StoryBlok, AWS (S3, Cognito, Elasticsearch, Rekognition, Kinesis, Lambda, EC2 etc.)

ACADEMIC WORK / PROJECTS

- Temporal Orientation : A scheme and Corpus for Classifying Temporal Orientation in Political Speech ([temporal-orientation](#))
 - NLU Research project on **analyzing future and past temporal orientation, using Bi-RNNs, BiLSTMs, and SVM**
- Classification of **toxicity in civil comments using BiLSTMs** and **stacked traditional ML** models ([Comment Toxicity](#))
 - ML and Big Data project to train models on 1.8 million sentences, primarily using python, Keras, TensorFlow, and pySpark
- AWS cloud projects: 1. Virtual Assistant for Meetups ([Meetup Assistant](#)) 2. Smart door simulation([smart-door](#)), 3. Private Album Search ([Photo-Search](#)), 4. Dining Chatbot([DiningBot](#))
- Grad Courses: **AI, Machine Learning, Natural Language Understanding, Big Data, Computer Vision, Algorithms, Cloud Computing**

WORK EXPERIENCE

NEW YORK UNIVERSITY, New York NY | Title: Graduate Teaching Assistant(courses: DevOps, Urban Decision Models) | 01/2019 –present

- Lead an open source Course Builder website project as part of a DevOps guided studies program ([CourseBuilder](#))
- Lead DevOps student teams on a [Newsletter](#) project for NYC Department of Records, an agent-based modeling system - [indras-net](#)
- Assisting professors in class, grading quizzes and assignments, and conducting course content review sessions.

EFF CREATIVE GROUP, New York NY Title: Full Stack Development Intern | 06/2019 –08/2019

Projects: WeSearchWatches and TickerTocker

- Developed APIs, UI, and added AWS Cognito, Route53, CloudFront for **WeSearchWatches** – a comparison website for luxury watches
- Added widgets and custom features to the UI of **TickerTocker** - a trading productivity platform.

ACCENTURE SOLUTIONS PRIVATE LIMITED, Bangalore, India Role: NLP/ML Engineer Lead | 05/2015 –07/2018

Project: ATL - RHEA Conversational AI and RHEA Smart Entertainment

- ML/NLP R&D Engineering Lead in a team of ten to develop ML-based customer service virtual agents for various domains.
- Built a Dialog Management (DM) module (using OpenDial); converted modules into microservices; managed builds and deployments.
- Developed the Spoken Language Understanding (SLU) module (supervised ML- SVM, CRF, RF etc.) and a template-based NLG system.
- Processed data from various domains, annotated and ran experiments to compare the performances of various ML/DL techniques.
- Improved performances of many modules by restructuring code and logic and **reduced the processing time by ~75%**.
- Published a research paper “**Smart Entertainment – A Critiquing based Dialog System**” at **NLDB 2018, Paris, France**
- Have a patent ‘Intelligent Humanoid Interactive Content Recommender’ as a co-inventor.**
- Filed another patent ‘Spoken Language Understanding System and Method Using Recurrent Neural Networks’ as a co-inventor.**

Project: ATL - Savant: Testing Virtual Agent Title: Software Engineering Analyst; Role: ML/NLP R&D Engineer

- ML/NLP R&D Sr. Engineer in a team of ten to build a desktop-based platform for multiple virtual agents in Testing domain.
- Developed custom NLP modules for Spoken text processing, and a JMS based system for Alerts and recommendations.
- Designed the backend structure and setup the databases; managed all integrations, builds, and deployments.
- Successfully demonstrated the work to various clients and received ATL Sunshine award for the contributions.
- Filed a patent ‘Platform for Supporting Multiple Virtual Agent Applications’ as a co-inventor.**

Project: ATL - HR Recruitment Advisory Title: Software Engineering Analyst; Role: ML/NLP R&D Engineer

- ML/NLP R&D Engineer in a team of six to build a Resume processing, matching, and ranking research project.
- Developed NLP based custom components to process unstructured text in Resumes and JDs; also managed builds and deployments.

COGNIZANT TECHNOLOGY SOLUTIONS, Chennai, India. Title: Programmer Analyst | **Project: SeeBeyond Conversion** | 04/2013 –02/2014

- Developed REST services for a Commercial Insurance client portal, to replace a legacy system of JMS based services
- Followed an AGILE Scrum methodology and finished the project earlier than scheduled.

AWARDS & ACHIEVEMENTS

- Received an ACE (Accenture Celebrates Excellence) award, for innovation.
- Received three Accenture Labs Sunshine Awards, for exemplary contributions to projects, innovation and people skills.
- Been the Class Representative (CR) in the last four semesters of undergrad; and placement coordinator for a class of 60 students.
- Received a certification, with First Class rank, in Carnatic Music on Violin; Won a second prize in writing on Music.