Arjun R. Rao

Software Developer · Speaker · Researcher

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Education

M.S. Ramaiah Institute of Technology (RIT)   *Bangalore, India*
B.E. in Information Science and Engineering   *Aug. 2014 - June 2018*
- CGPA: 9.41/10

Experience

Stride.ai Inc.   *Bangalore, India*
NLP Engineer   *July 2018 - Present*
- Working on text classification and hierarchical clustering problems, optimized for low resource datasets.
- Lead frontend developer, responsible for UI design and implementation on several projects.
- Developed interactive visualizations in D3.js supporting real-time visualization updates, user feedback etc.
- Lead developer for a custom PDF Viewer built using pdf.js that allows for user annotation functions and additional capabilities. The viewer is being used in 10+ Projects.
- Technologies Used: Python, Keras, Tensorflow, D3.js, Angular, PDF.js, Internal tools

Research and Development Intern   *Jan. 2018 - Apr. 2018, Oct. 2016 - Dec. 2016*
- Optimized Named Entity Recognition models in a production project to improve accuracy by combining standard NER datasets with context specific data.
- Implemented end to end web based projects for process automation using Django, Angular and internal libraries.
- Built scrapers for automatically extracting information from multiple websites involving simulation of complex UI interactions.
- Technologies Used: Django, Selenium, Angular, CoreNLP, Internal tools

Cloud Developer Relations, Google Inc.   *San Francisco, US*
Developer Programs Engineer Intern   *June 2017 - Sept. 2017*
- Built tools to help track code repositories and generate customized notifications, for faster triage of issues.
- Part of the project was released as open source software, and can be found at github.com/GoogleCloudPlatform/issuetracker
- Technologies Used: Google Cloud Datastore, Google BigQuery, Google App Engine, GoLang, Angular

M.S. Ramaiah Institute of Technology   *Bangalore, India*
Teaching Assistant, Applied CS with Android Course (4 Credits)   *Jan. 2017 - May 2017*
- Teaching Assistant for Applied CS with Android Course designed in collaboration with Google.
- Handled 25 two-hour tutorial sessions for a class of 52 students.
- Developed codelabs, internal sites, auto grading systems for assignments.
- Based on my work, RIT was selected as one of the 5 universities worldwide, to be featured in a case study for University Adoption of the program. [Link]
- Technologies Used: Android, Java, GoLang, Javascript

Facilitator, Google Applied CS with Android Program   *Feb. 2016 - Dec. 2016*
- Conducted 5 cohorts of 16 hour Applied CS workshops for over 150 students as a campus facilitator for RIT.
- Recognized as a top facilitator for the academic year of 2016-2017 in the program.
- Technologies Used: Android, Java

CSIR- Central Electronics Engineering Research Institute   *Pilani, Rajasthan, India*
Research Fellow, Indian Academy of Sciences Summer Research Fellowship (IAS-SRFP 2016)   *June 2016 - Aug. 2016*
- Research project titled "Catadioptric Scene Analysis" at the Computer Vision Lab, CSIR-CEERI under Prof. Santanu Chaudhury.
- Worked on implementation of unwrapping algorithms and evaluation of computer vision algorithms for pedestrian detection on catadioptric images. [Link to Report]
- Technologies Used: Matlab - Computer Vision Toolbox, OpenCV

Publications

Milo: A visual programming environment for Data Science Education
Lisbon, Portugal

ARJUN R RAO, AYUSH BIHANI, MYDHILI K NAIR
Oct. 2018

- Proceedings of 2018 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC'18), pp. 211-215. [PDF]
- Designed and implemented a novel visual programming environment to help novice students and non-programmers learn Data Science and ML concepts using block based programming.
- DOI: 10.1109/VLHCC.2018.8506504

Context Based Approach for Second Language Acquisition
New Orleans, USA

NIHAL V NAYAK, ARJUN R RAO
June 2018

- System paper for Duolingo's shared task on Second Language Acquisition Modelling (SLAM 2018). [PDF]
- Published in the Proceedings of the NAACL-HLT Workshop on Innovative Use of NLP for Building Educational Applications (BEA at NAACL 2018).
- Trained a logistic regression model to predict the likelihood of a student making a mistake while answering an exercise on Duolingo. Made use of features inspired by research in code-mixed language learning where context plays an important role.
- Result: AUROC scores for English/Spanish = 0.821, Spanish/English = 0.790 and French/English = 0.812. 2nd best linear model, finished 9th overall in SLAM 2018

BOOK CHAPTERS

DearDiary - An IBM Watson Powered Mental Healthcare Tracker
Springer, Singapore

ABHILASH K, AMISHA A, ANISHA M., ARJUN R RAO
Nov. 2017

- Book Chapter in Applications of Cognitive Computing Systems and IBM Watson, published by Springer, Singapore.
- DOI: 10.1007/978-981-10-6418-0_8

Big Data Predictive Modeling and Analytics
Bangalore, India

MYDHILI K NAIR, ARJUN R RAO, MIPSA PATEL
Oct. 2017

- Book chapter in Big Data Analytics: Tools and Technology for Effective Planning. (ISBN 9781138032392)
- Published by CRC Press Taylor & Francis Group.

Data Migration Techniques from SQL to NoSQL
Bangalore, India

MYDHILI K NAIR, NIHAL V NAYAK, ARJUN R RAO
Mar. 2017

- Book chapter in NoSQL: Database for Storage and Retrieval of Data in Cloud. (ISBN 9781498784368)
- Published by CRC Press Taylor & Francis Group.

Honors & Awards

NATIONAL

Winning Team, Hackathon Challenge, IBM Collaborative Academia Research Exchange (ICARE 2016) *Oct. 2016*

Fellow, Indian Academy of Sciences Summer Research Fellowship Program 2016 *June 2016*

Finalist, Build the Shield 2016 - Cyber security contest by Microsoft *Mar. 2015*

REGIONAL

Best Outgoing Student (Batch of 2014-2018), Dept. of Information Science and Engineering, RIT *June 2018*

Best Performer, PAYSE Ethical Hacking Challenge at RIT Bangalore, by Nucleus Software *Mar. 2017*

Winner, Hackathon, Empyreal 2017 at RIT Bangalore *Feb. 2017*

Talks

Apps Script Study Jam *Bangalore, India*

Facilitator for GDG Bangalore's Workshop on Google Apps Script *Feb. 2018*

- Conducted a day long hands-on workshop on Google Apps Script for Google Developer Groups Bangalore.
- [Link to Slides]

The Power of Google Apps Script *Bangalore, India*

Speaker for GDG Bangalore's DevFest *Oct. 2017*

- Introduced Google Apps Script with use cases, workflows and demos at Google Developer Groups Bangalore's annual developer conference.
- [Link to Slides]

Extracurricular Activities

Two Day Hands on Workshop on UML Modelling and Design Patterns *Bangalore, India*

Teaching Assistant *Mar. 2017*

- Conducted hands-on sessions on MVC using Flask at Global Academy of Technology, Bangalore.
- Wrote problem sets, walkthroughs, slides & lecture notes for the hands on sessions.
- Setup a cloud based IDE for students to use on c9.io to reduce setup time.

Google India's Code to Learn Contest 2016 *Bangalore, India*

Judge *May 2016*

- Evaluated projects submitted by students of classes 5 to 10, created using Scratch and MIT App Inventor.

IEEE ANTS Conference 2016 *Bangalore, India*

Conference Volunteer and App Developer *Nov. 2016*

- Developed an Android & Web App to handle conference logistics using QR Codes on attendee badges.
- Helped organize the conference as a student volunteer at the Indian Institute of Science, Bangalore.

IEEE WIE Symposium 2016, Ignite Tech Fest 2016, TEDx MSRIT 2015 *Bangalore, India*

Event Volunteer *2015-2016*

- Organized, and conducted a Capture the Flag competition as part of Ignite Tech Fest 2016 at RIT.
- Helped organize events as a volunteer for TEDx MSRIT 2015 & IEEE WIE Symposium 2016 at RIT.