

# RASHMI RAO

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## Work Experience

### Software Engineer

**Aspect Software** | July 2017 - Present | @Orlando, FL, USA

Working on MessageHub, a part of Aspect Via. Via is a customer engagement solution and MessageHub integrates several messaging channels with a Natural Language Understanding engine for automated text responses.

- Designed, developed and tested data-pipeline systems for handling very large messaging volumes.
- Worked with several Amazon Web Service (AWS) cloud technologies such as Lambda, Kinesis, DynamoDB, RDS, SQS, CloudWatch and EC2.
- Built pipelines using Jenkins for Continuous Deployment CD and automated infrastructure deployments using Terraform scripts.
- Deployed applications on Kubernetes clusters.
- Configured DataDog for monitoring system performance and setup health alerts.
- Worked on a system that automatically synchronizes data from MS SQL to RDS MySQL databases and handles provisioning of phone numbers for SMS services.
- Worked on improving the performance of a legacy gateway system to provide sub-second processing response for each of the more than one million messages everyday.

### Software Engineer

**Cisco Systems** | Sep 2013 - Aug 2015 | @Bangalore, India

Worked on an internal Integrated Release Management tool. This tool consolidated several legacy tools into a single dashboard for simplified User Experience in business process re-engineering.

- Designed and developed full-stack enterprise web applications using Spring Framework.
- Worked on a big data analytics system that collated data and processed it with Hadoop to present key insights.

## Education

### MS in Computer Science

Ohio State University, USA

GPA major: 3.6/4.0

Aug 2015- May 2017

### BE in Electronics and Communication

PES Institute of Technology, India

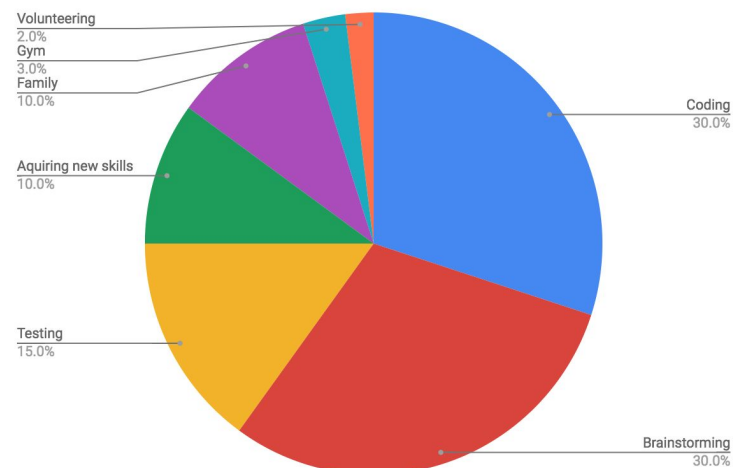
GPA: 9.07/10

Aug 2009- May 2013

## Skills

- **Expert** : Java, Spring Framework, Microservice development with AWS, SMS messaging with Apache Camel, Continuous Deployment with Jenkins, Terraform, Kubernetes, REST Api.
- **Proficient** : SQL, Python, Scala, Cassandra, PHP, HTML5, CSS, Javascript, Bootstrap, JQuery, Hibernate
- **Knowledgeable** : Data Science, Machine Learning, Wireless sensor networks and Internet of Things(IoT)
- **Tools**: GIT, SVN, Rally, Jira, Datadog, Splunk, Matlab, Apache Jmeter.

## My Time



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## Academic Research

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### Behaviour and cognitive bias analysis in graph based e-learning | @Columbus, Ohio, USA

This is an NSF funded research project aimed at analysing learning behaviours of middle school students in STEM education. Students are given to use an e-portal to learn mathematical concepts and their mouse movements and clicks are logged for later analysis.

- Analysed and built models to predict the participation levels of students and a possible cognitive bias towards data or graph based learning using machine learning techniques.
- Co-developed an e-learning web application for linear algebra education.
- Work resulted in multiple publications

## Other academic projects

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### Analysis of nodal influence and passivity in multi-layered networks

- Developed an algorithm and visualized the nodal influence within a multi layer network using PageRank and HITS algorithm.

Reference: <https://goo.gl/B4Gmaz>

### Analysis on reddit data

- Used Natural Language Processing and ensemble classifier(erb,ada,knn) to predict whether a online pizza request on reddit will be successful. Our results stood in the top 50 rankings in Kaggle competition ranking.

Reference : <https://goo.gl/bxok5k>

### Cloud and mobile integration for wireless sensor networks

- Used Constrained Application Protocol (CoAP) on .NET micro framework and designed an IOT network to support cloud connectivity of the emote.

### Neural network based hardware branch predictors

- Implemented "Perceptron", a Neural Network based Branch Predictor.

## Publications and Poster Presentations

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### Behaviour and cognitive bias analysis in graph based e-learning using Data Science

[https://etd.ohiolink.edu/pg\\_10?0::NO:10:P10\\_ACCESSION\\_NUM:osu1492560600002105](https://etd.ohiolink.edu/pg_10?0::NO:10:P10_ACCESSION_NUM:osu1492560600002105)

- Frontiers in Education IEEE Conference, 2018. San Jose
- Poster presentation at the Tapia Conference, 2017. Atlanta.

### An Interactive Learning Tool for Early Algebra Education: Design, Implementation and Evaluation

- The Frontiers in Education IEEE Conference, 2017. Indianapolis

<https://ieeexplore.ieee.org/author/37086326870>

## Accomplishments

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- Won the yearly hackathon at Aspect Software for development of a spell checking application based on web crawling and scraping. Reduced the error in message intent recognition by more than 15%.
- Won the competition for Best user interface implementation and a gold certification for continuous software tool delivery at CISCO.
- Was awarded the Bachelor's level National Merit Scholarship for academic excellence. This scholarship is awarded selectively to only to the top 2500 students in the Nation.
- Participated in several National level project competitions.

## Volunteering work

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- Volunteer weekly as a mentor for middle school students as a part of U.S. Dream Academy, a non profit organization.
- Volunteered to teach Math and Science at state run under-developed high schools as a part of the Smile, a non profit organization in India.