

# RASHMI JAYATHIRTA RAO

11001 Pondview Drive. Apt 1H. Orlando. FL-32825 | 614-599-5397 | [9rashmi18@gmail.com](mailto:9rashmi18@gmail.com) | <https://rashmijrao1991.github.io/>

## Education

Ohio State University, USA (**MS in Computer Science**)

GPA major: 3.5/4    Graduated : **May 2017**

PES Institute of Technology (BE in ECE)

GPA: 9.07/10    Graduated: Aug 2013

## Skills

- **Expert** : Java 8, Micros service development with Amazon Web Service technologies such as Lambda, Kinesis, Dynamo DB, Elastic Beanstalk, SMS messaging service with Apache Camel, Spring Framework, Continuous automated Deployment with Jenkins, terraform and Kubernetes technologies.
- **Proficient** : SQL, MySQL, Python, PHP, HTML5, CSS, Javascript, Bootstrap, Jquery, Gradle, Cassandra, Hibernate, R, Angular JS, D3.js,
- **Special coursework**: Machine learning, Adv Computer Architecture, Network science, Wireless sensor networks and Internet of Things(IoT), Network programming, 'Data Scientist Specialization' on Coursera from Johns Hopkins University.
- **Tools**: GIT, SVN, Rally, Jira, Datadog, Splunk, Matlab, Apache Jmeter.

## Work Experience

### 1. Software Engineer at Aspect Software

July 2017 - Present

- I am currently working on the research and development of the infrastructure architecture needed for an Interactive Text Response (ITR) product. The work involves building efficient architectures for handling communication of large volumes of the messages/chats between several messaging platforms and an automatic text service which is based on Natural Language Understanding. The messages are processed and directed to appropriate endpoints with throughput and scaling managed using the Amazon Web Service cloud management technologies (message formatting, message routing, billing and time-efficient processing of payloads).
- I also work on code management by automating the deployment through pipelines (Continuous Deployment).
- I work with kubernetes technology and terraform scripts for automated infrastructure deployment.
- Worked on improving the performance of a legacy gateway system to provide sub-second processing response for more than one million messages everyday.

### 2. Software Engineer at Cisco Systems

Sep 2013 - Aug 2015

- Designed and developed full stack enterprise web applications for simplified User Experience in Business process re-engineering.
  - Worked on traceability and intelligence involved in data across release management tools
  - Worked on a big-data analytics project that collated data from several diverse sources within Cisco to present insights.
- Skills** : Java, UI, UX, Web services, HTML, CSS, AJAX, JavaScript, Jquery, Hadoop, Spring framework, Hibernate, RESTful API, CI, MVC framework, Agile product development methodology, cross site scripting and SQL injection vulnerability handling.

## Academic Projects

- Worked on an NSF funded research project that analyzes student learning behavior and cognitive bias using logged metadata and data analytics. Co-developed a graph based e-learning web application with PHP being used by more than 500 students across Columbus,OH.  
**Skills** : Python, PHP, Matlab, R, CentOS, Moodle, Jquery, HTML5, Human Computer Interaction(HCI), UI, UX design
- Using Machine Learning models:
  - Predicted cognitive recognition from MRI brain image data using Linear and stochastic gradient descent.
  - Clustered and analyzed wine dataset using Expectation Maximization.
  - Performed Qualitative Human Activity prediction in Fitness.
  - Predicted mushroom type to classify it as poisonous or consumable.
  - Built a chrome extension to suggest hashtags for a tweet based on the tweet's text and trending hashtags using natural language processing (NLTK) and k-NN algorithm.
  - Worked on a case study on the success of altruistic requests based on Natural Language Processing and ensemble classifier(ern,ada,knn). This project was a part of the Kaggle data science competition and our kaggle score was in top 50 rankings among all the submissions. **Reference** : <https://goo.gl/bxok5k>
- **Cloud and mobile integration for wireless sensor networks**: (C#, .NET, CoAP,MQTT)  
Implemented Constrained Application Protocol (CoAP) on .NET micro framework and designed an IOT network to support cloud connectivity of the emote.

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- **Java based LISP Interpreter:** (Java, lisp)  
Developed an interpreter to perform lexical parsing and evaluation on lisp code using recursive descent programming in Java
- **Neural network based hardware branch predictors:** (Linux, C++)  
Implemented Perceptron, a Neural Network based Branch Predictor.
- **Analysis of nodal influence and passivity in multi layered networks :** (Python, networkx, Linux, Network Science)  
Developed an algorithm and visualized the nodal influence within a multi layer network using page rank and HITS algorithm.  
**Reference:** <https://goo.gl/B4Gmaz>

## International Journal Publications and Poster Presentations

- My thesis research, “Behaviour and cognitive bias analysis in graph based e-learning using Data Science”:
  - Was presented at the Frontiers in Education 2018, an IEEE Conference.
  - Was presented as a poster at the OCWiC, an ACM-women in computing conference in Feb 2017.
  - Was presented as a poster at the Tapia Conference 2017, held at Atlanta.
  - [https://etd.ohiolink.edu/pg\\_10?O::NO:10:P10\\_ACCESSION\\_NUM:osu1492560600002105](https://etd.ohiolink.edu/pg_10?O::NO:10:P10_ACCESSION_NUM:osu1492560600002105)
- Co-author of paper on “An Interactive Learning Tool for Early Algebra Education: Design, Implementation and Evaluation”:
  - Was presented at The Frontiers in Education 2017, an IEEE Conference.
  - Was presented as a poster at the ACM Tapia Conference 2017, held at Atlanta.
  - <http://web.cse.ohio-state.edu/~stewart.962/Papers/siva2017preliminary.pdf>

## Accomplishments and Extracurricular activities

- Was awarded the bachelor's level “**National Merit Scholarship**” for academic excellence.
- Won the competition for “**Best user interface implementation**” and a “**gold certification**” for continuous software tool delivery at CISCO.
- Volunteered to teach Math and Science at state run under developed high schools in India as a part of the “Smile”, a non profit organization.