

# Divyendra M

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## EDUCATION

### University of Massachusetts Amherst

- MS in Computer Science (Apr 2019)

### Amrita University, India

- BS in Computer Science (Dec 2013)

## TECHNICAL SKILLS

- Neural Networks applied as Deep QA models
- Good idea on OOP design patterns
- Have knowledge on scalable architectures and built a couple.

## PROJECTS

### IBM T.J. Watson

(Current::University-Collaboration)

- Categorize structure of question compositionality with regards to standardized science questions.
- Using this categorization to analyze QA models and motivate hierarchical pipelines over parallel pipelines

### Cellworks Research Ltd, Bangalore, India | Lead Developer

(Apr '16 - Dec '16)

- Built a HIPPA compliant cloud orchestrator infrastructure over AWS
- The infra was built to leverage the cheap AWS Spot instances which have to be *smartly* bidded upon by our system competing with global users at the risk of losing instances when outbid.
- Designed to distribute, monitor and parallelize the simulation jobs bringing an estimated 30% cost savings and 45% time reductions
- #Python3 #AWS-Spot #Event driven architecture #MySQL #Asynchronous IO

### RocketSingh | Motorbike taxi aggregator startup, India | Lead Developer

(Jun '15 - Feb '16)

- Implemented the core GeoSpatial Index wrapper to fetch the taxis in nearby locations in logarithmic time
- Architected, Designed the server side architecture to support the 10K scale
- Designed and wrote the entire mobile facing app technology stack respecting the mobile environmental constraints.
- A GeoClustering module which would cluster customer orders having vicinal destinations.
- #Quad Trees #Play-framework #Java #Key-Value NoSQL #Pub-Sub reactive design #Android

### Intruo | Interior design online marketplace, India | Software Engineer

(Dec '14 - Jun '15)

- Built the 'Content Management module' which aggregates the latest design videos and blogs from the web and gives a provision to be ranked. This helped build the customer Engagement and the site's SEO ranking.
- Implemented the Timeline activity module for customer profiles and the customer facing Android mobile app which includes the ownership of UI/UX design decisions.
- #Play-framework #Android #DynamoDb #Java

### Deutsche Bank | Bangalore, India | Software Engineer

(Oct '13 - Nov '14)

- Maintained the middleware environment for the bank's OTCTES trade system
- Setup the Message oriented middleware setup using TIBCO and Java Messaging Services

## ACADEMIC PROJECTS

### Enhancing training effectiveness of deep networks trained using Mutual Training technique.

- Worked on teacher-student compression models and mutual learning compression models
- Suggested an enhancement to the *Mutual Learning* technique, effective when deep student models are used by initializing weights into a broader local minima space using hint based pretraining.

### Deep QA models

- Worked on SQUAD(72.2 F1) and bAbI(90.6%) QA datasets to re-implement SOA models for reading comprehension task. As part of which compared traditional RNNs inabilities against SOA Bi-Directional Attention Flow model

### Social Connect

- Built an initial level social networking web app with photo sharing facility :: Groovy and Grails framework

### Paragraph level Plagiarism Detector

- Implemented the Smith-Watermann algorithm with Irwin's cutoff to detect local string sequence alignments

## CODE HOSTED

- <https://github.com/Divyendra/GeoSpatialIndexCode>
- <https://github.com/Divyendra/RocketSingh>