

Divyendra M

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EDUCATION

University of Massachusetts Amherst

- MS in Computer Science (Jun 2019)

Amrita University, India

- BS in Computer Science (Dec 2013)

TECHNICAL SKILLS

- Deep neural models and Probabilistic Graphical models
- Well-versed with OOP design patterns
- Versed with scalable architectural choices

PROJECTS

IBM T.J. Watson (University-Collaboration) (ACL'18 MRQA best paper award) (Feb'18-Apr'18)

- Built a tool for analysing the types of reasoning and knowledge required to tackle science question datasets
- Using our annotated data, underscored the difficulty of tackling open-domain QA for existing Deep QA models

Cellworks Research Ltd, Bangalore, India | Software Consultant (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* bid 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

RocketSingh | Motorbike taxi aggregator startup, India | Lead Developer | [CODE](#) (Jun '15 - Feb'16)

- Implemented the core GeoSpatial Index wrapper to fetch the taxis in nearby locations in log time [\[CODE\]](#)
- 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.
- Built a GeoClustering module which would cluster customer orders having vicinal destinations in an online, real-time setting.

Intruo | Interior design online marketplace, India | Software Engineer (Dec '14 - Jun '15)

- Built the 'Content Management module' which aggregates the latest design articles from the web, and gives a provision to be manually ranked. This helped improve customer engagement and the website's SEO.
- Took responsibility of the mobile tech and UI decisions to build the customer facing Android mobile app.

Deutsche Bank - Infosys | 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 | [BLOG](#)

- 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.

Analysing Deep Question Answering(QA) models | [REPORT](#)

- 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

Optical Character recognition using CRFs(ConditionalRandomFields)

- Implemented chain structured CRFs to model English character pattern extraction from greyscale images
- Implemented Belief propagation for Exact inference and achieved 91% accuracy

Topic modelling using Stochastic Blackbox Variational learning

- Modelled the latent topics of previous NIPS papers as a Factor Analysis model
- Used Stochastic Blackbox Variational learning framework to train the latent variables

LANGUAGES AND FRAMEWORKS

- Python(>10K), Java(>10K), C, PHP
- Android, Play(Event driven, non-blocking Webframework), Tensorflow, Pytorch, Scikit-learn, Pandas, Numpy, DynamoDB(KeyValue NoSQL)