

# Manish Shetty M

Research Fellow, Microsoft Research India  
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## EDUCATION

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- **PES University, Bangalore** Aug 2016 – May 2020  
BTech in [Computer Science and Engineering](#), *Summa cum laude*  
*Specialization in Data Science*  
Cum. GPA: **9.51/10**, 🏆 **Institute Rank: 35**

## WORK EXPERIENCE

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- **Microsoft Research, Bangalore, India** Jun 2020 – Present  
*Research Fellow*
  - Advisor: [Chetan Bansal](#), [Dr. Nachiappan Nagappan](#), and [Dr. Thomas Zimmerman](#)
  - Projects -
- **Microsoft Research, Bangalore, India** Jan 2020 – June 2020  
*Research Intern*
  - Advisor: Chetan Bansal, [Dr. Nachiappan Nagappan](#), and [Dr. Thomas Zimmerman](#)
  - Project - SoftNER: Neural Knowledge Extraction from Cloud Service Incidents
- **Deloitte Touche Tohmatsu LLC, Bangalore, India** June - August, 2019  
*ML Research Intern*
  - Advisor: Dr. Vikram Venkateswaran, Venkat Bulusu
  - Project - Feature Engineering and Unsupervised Learning for Cyber Risk Detection

## PUBLICATIONS

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- **Neural Knowledge Extraction from Cloud Service Incidents** [\[arxiv\]](#)  
**Manish Shetty**, Chetan Bansal, Sumit Kumar, Nikitha Rao, Nachiappan Nagappan and Thomas Zimmermann  
Under review in *International Conference on Software Engineering (ICSE - SEIP) 2021*  
🏆 **Featured in VentureBeat** - Microsoft's SoftNER AI uses unsupervised learning to help triage cloud
- **Exploration and Comparison of Modern AI Algorithms to Predict Drug Efficacy** [\[paper\]](#)  
**Manish Shetty**, Anish Kasi, Roshan Neil, Vidhya Murali, Prashanth Athri, Gowri Srinivasa  
In *IEEE International Conference on Electronics, Computing and Communication Technologies (CONNECT) 2020*

## PATENTS

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- **Automatic Recognition of Entities Related to Cloud Incidents** filed with the USPTO June 19, 2020  
Inventors: **Manish Shetty**, Chetan Bansal, Sumit Kumar, Nikitha Rao, Nachiappan Nagappan and Thomas Zimmermann

## RESEARCH EXPERIENCE

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- **Neural Knowledge Extraction from Cloud Service Incidents** Jan'20 – Jul'20  
*Advisors: Chetan Bansal, Dr. Nachiappan Nagappan, and Dr. Thomas Zimmerman, Microsoft Research India*
  - Built **SoftNER** - a framework for unsupervised knowledge extraction from service incident reports and framed the knowledge extraction problem as a Named-Entity Recognition task.
  - Approach was to develop a framework that is domain agnostic and extensible to various teams and their domain specific entities, without any manual labeling.
  - Proposed a multi-task, data type aware model for extraction of named-entities from incidents that out-performed state-of-the-art NER models on this domain. Also showed that extracted entities can be used as features to improve incident triage models.
- **Exploration and Comparison of Modern AI Algorithms to Predict Drug Efficacy** Sept'19 – May'20  
*Bachelor Thesis, Advisors: Dr. Gowri Srinivasa, PES University*
  - Worked on improving the ReLeaSE reinforcement learning framework for de-novo drug design and drug re-purposing. The framework ties a drug generator (Actor) and a drug property predictor (Critic).
  - Approached the problem with a 2 pronged strategy of improving learning representations of compound and simplifying classifiers for drug property prediction.
  - Learnt representations of compounds using inherent hierarchical structures in the SMILE string format and path-context based encoding. Showed that a random-forest classifier with the new representation can out-perform the complex LSTM predictor in the original framework.

## RELEVANT COURSES

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Deep Learning • Machine Learning + Practicum • Natural Language Processing • Linear Algebra • Research Methodology • Introduction to Data Science • Data Analytics • Discrete Mathematics and Logic • Algorithms + Practicum • Advanced Algorithms • Engineering Mathematics I • Engineering Mathematics II