

# Manish Shetty M

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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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\* – EQUAL CONTRIBUTIONS

- **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*
- **Denoising and Segmentation of Epigraphical Estampages by Multi Scale Template Matching and Connected Component Analysis** [\[paper\]](#)  
P. Preethi\*, Anish Kasi\*, **Manish Shetty\***, H. R. Mamatha  
In *Procedia Computer Science*, Volume 171, 2020
- **Multiscale Template Matching to Denoise Epigraphical Estampages** [\[paper\]](#)  
P. Preethi\*, Anish Kasi\*, **Manish Shetty\***, H. R. Mamatha  
In *Advances in Intelligent Systems and Computing*, Volume 1034, 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 critic in ReLeaSE - reinforcement learning framework for de-novo drug design.
- . Approached the problem with a 2 pronged strategy. Proposed use of inherent hierarchical structures in SMILE strings and path-context based encoding for compound representation. Also, showed that simpler classifiers with this representation can out-perform the complex LSTM predictor in the original framework.
- . This work was supported by the Ministry of Science and Technology and accepted at *IEEE CONNECT 2020*.

● **Denoising and Segmentation of Epigraphs** Sept'18 – May'19

*Advisors: Dr. Mamatha H R, PES University*

- . Worked on denoising and segmentation for deciphering engraved inscriptions. Proposed an algorithm that utilizes a noise template and is inspired by a CNN - Multi Scale Template Matching, to create a mask of noise in the image.
- . In a following attempt, to overcome the limitations of a fixed prior template, inferred a character's area using projections and histogram smoothing. Proposed that a factor of this area can be set as a lower bound for Connected-Components denoising and segmentation.
- . This work resulted in 2 publications in - Elsevier's *Procedia Computer Science Journal* - 2020 (H-index:59) & Springer's *Advances in Intelligent Systems and Computing* - 2020 (H-index:34).

## 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