# Bhanu Prakash Reddy Guda

 $Google \ Scholar: \ https://scholar.google.ca/citations?user=H\_l6pEIAAAJ\&hl=en/l6pEIAAAAJ&hl=en/l6pEIAAAAJ& hl=en/l6pEIAAAAJ& hl=en/l6pEIAAAA$ 

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#### Education

Indian Institute of Technology Kharagpur

Bachelor of Technology with Honors in Computer Science and Engineering GPA: 9.66/10, Class Rank: 2/60

Sri Chaitanya Junior College Board of Intermediate Education Andhra Pradesh Overall Performance: 98.2%

Gowtham Concept School

Central Board of Secondary Education GPA: **10/10**  Kharagpur, India July 2015 – May 2019

Vijayawada, India May 2013 – April 2015

Gudivada, India June 2011 – March 2013

#### PUBLICATIONS

- Bhanu Prakash Reddy Guda\*, Sasi Bhushan Seelaboyina\*, Soumya Sarkar\*, Animesh Mukherjee, "NwQM: A neural quality assessment framework for Wikipedia", *EMNLP 2020*.[pdf]
  Featured in *Wikimedia Research Newsletter* Vol: 10 Issue: 11 November 2020.
- Samarth Aggarwal<sup>\*</sup>, Rohin Garg<sup>\*</sup>, Abhilasha Sancheti, **Bhanu Prakash Reddy Guda**, Iftikhar Ahamath Burhanuddin, "Goal-driven Command Recommendations for Analysts", *RecSys 2020*. [pdf]
- Soumya Sarkar<sup>\*</sup>, Bhanu Prakash Reddy Guda<sup>\*</sup>, Sandipan Sikdar, Animesh Mukherjee, "StRE: Self Attentive Edit Quality Prediction in Wikipedia", ACL 2019. [pdf]
  Featured in Wikimedia Research Newsletter Vol: 9 Issue: 10 October 2019.
- Aadhavan M. Nambhi<sup>\*</sup>, **Bhanu Prakash Reddy Guda**<sup>\*</sup>, Aarsh Prakash Agarwal<sup>\*</sup>, Gaurav Verma, Harvineet Singh, Iftikhar Ahamath Burhanuddin, "Stuck? No Worries!: Task-aware Command Recommendation and Proactive Help for Analysts" *ACM UMAP 2019.* [pdf]
- Bhanu Prakash Reddy Guda, Niyati Chhaya, Aparna Garimella, "Analyzing Empathy and Distress in Reactions to News Stories across Demographics", *EACL 2021 (Under review)*.
- Bhanu Prakash Reddy Guda, Niyati Chhaya, Aparna Garimella, "EmpathBERT: A BERT-based Framework for Demographic-aware Empathy Prediction", *EACL 2021 (Under review)*.
- Paramita Das, **Bhanu Prakash Reddy Guda**, Sasi Bhushan Seelaboyina, Soumya Sarkar, Animesh Mukherjee, "Quality change: norm or exception? Measurement, Analysis and Detection of Quality Change in Wikipedia", *WWW 2021 (Under review)*.
- Bhanu Prakash Reddy Guda, Natwar Modani "Supervised Automated Keyphrase Extraction", *PAKDD 2021 (Under review)*.

#### PATENTS

• A Learnable Policy-Based Method for Human-in-the-loop Data Acquisition in Content Detection [Approved]

Inventors: Sumit Shekhar, Bhanu Prakash Reddy Guda, Ashutosh Chaubey, Ishan Jindal, Avneet Jain.

- BERT-Based Machine-Learning Tool for Predicting Emotional Response to Text [Approved] Inventors: Bhanu Prakash Reddy Guda, Aparna Garimella, Niyati Chhaya.
- Intent-Based Command Recommendation Generation in an Analytics System [Approved] Inventors: Samarth Aggarwal, Rohin Garg, **Bhanu Prakash Reddy Guda**, Abhilasha Sancheti, Iftikhar Ahamath Burhanuddin.
- Task-Aware Command Recommendation and Proactive Help [Approved] Inventors: Aadhavan M. Nambhi, **Bhanu Prakash Reddy Guda**, Aarsh Prakash Agarwal, Gaurav Verma, Harvineet Singh, Iftikhar Ahamath Burhanuddin.

# Work Experience

# Adobe Big Data Experience Lab, Adobe Research

Research Associate

- Collaborated with Dr. Niyati Chhaya and Dr. Aparna Garimella and developed BERT, MT-DNN based models to identify the affect of textual content on a specific user, represented by demographics.
- Worked on improving the reading experience through non-linear semantic navigation of documents. Developed sophisticated keyphrase and relation extraction models for labeling content and graphical representation.
- Working on multi-modal algorithms to identify and understand the semantics of the fields in a PDF form. Developing active learning techniques to handle the data sparsity of rare fields that are form-specific.
- Co-Mentored 3 internship teams of undergraduate students. *Paper* for 1 work and *Patents* for 2 works accepted.

# Adobe Big Data Experience Lab, Adobe Research

Summer Research Intern - Dr. Iftikhar Ahamath Burhanuddin

- Worked with Topic models to mathematically define tasks in an application and LSTM models for next action and help prediction tasks.
- Developed a state-of-the-art tool for next action prediction and proactive help using platform usage log data.
- Published a paper and a patent on the next action recommendation and proactive help model.

#### Capillary Technologies Pvt. Ltd. jointly with IIT Kharagpur

Summer Research Intern - Prof. Sudeshna Sarkar

- Worked with Convolutional Neural Networks to develop a model to detect and classify apparels in an image.
- Worked with several image processing techniques to filter input images to enhance the robustness of the YOLO model in a noisy real-time in-store setting.

# Research and Academic Projects

# Automated quality monitoring of English Wikipedia pages

Supervised by - Prof. Animesh Mukherjee

- Worked on automating the laborious page quality monitoring task on Wikipedia.
- Built a BERT based multi-modal system using text, community discussion, and image (screenshot) based features to predict the quality of a Wikipedia page at a given point of time. Extending the work to pages in medical domain.

# Automated edit quality prediction of English Wikipedia pages

Supervised by - Prof. Animesh Mukherjee

- Worked on computing the quality score of an edit made by editors on the English articles of Wikipedia.
- Based on the sentences of the page that are modified by the editor, developed hierarchical attention based BiLSTM model to compute the quality of an edit. Used Transfer Learning to handle the cold start problem for new and small pages and also to reduce the training time.

# Recommending books based on Socio-Cultural dynamics

Supervised by - Prof. Animesh Mukherjee

• Gathered user reviews and book reviews from Goodreads, along with the user profiles. Represented the books through their reviews using LSTM encoder, and users through their demographic attributes and reviews posted. • Computed similarity between users and books based on the learned representations.

# Human Emotion Detection From Typing on Smart Phones

Supervised by - Prof. Saptarshi Ghosh

• Analyzed the typing data on smartphones collected by monitoring the activities of users. Proposed a Multi-Task Learning approach to develop a global shared, and personalized terminal layers for each user to predict emotions.

# Supervised cross-lingual word embeddings

Supervised by - Prof. Sudeshna Sarkar

• Worked on generating cross-lingual word embeddings. Trained monolingual word embeddings and utilized the dictionaries from the FIRE corpus for supervised learning of the linear transformation of the embeddings.

# **Protocol for File Transferring**

#### Supervised by - Prof. Sandip Chakraborty

• Modified the IP, TCP, and Application layers of network protocol and implemented a server-client model for the concurrent transfer of files and messaging. Developed a peer-to-peer internal chatting application.

# Smart Mess Management System

Supervised by - Prof. Shamik Sural

- Designed a system that facilitates the students to manage their food options and bills digitally.
- Developed an online portal, and an android application using MySQL, SQLite, HTML, PHP, and Android Studio.

January 2018 – April 2019

October 2019 – Present

Bangalore, India

Bangalore, India

Kharagpur, India

May 2017 - July 2017

May 2018 - July 2018

July 2019 - Present

January 2019 - April 2019

July 2018 - November 2018

July 2018 - November 2018

January 2018 - April 2018

January 2018 - April 2018

# Competitions

- Secured **second prize** in Samsung Smartathon, a one-day deep learning hackathon hosted by Samsung R&D Institute India - Delhi. Developed a system based on deep learning tools to detect and classify the objects, estimate the gender and age of the people identified in an image.
- Secured **fourth place** at campus level in Flipkart GRiD Te[a]ch the Machines 2019 competition organized by Flipkart in IIT Kharagpur.

#### Achievements

- Undergraduate thesis among the **best five projects** in the Computer Science department.
- Received excellent grade in all subjects, and hence scored a **Perfect 10** in second and sixth semesters.
- Awarded **Certificate for Academic Excellence** by the Computer Science department for two consecutive years awarded to the department toppers.
- Central Sector Scheme of Scholarship awarded to the state board toppers for undergraduate studies.
- Secured an All India Rank 267 amongst 150,000 candidates in JEE Advanced 2015.
- Secured an All India Rank 233 amongst 1,300,000 candidates in JEE Mains B.Tech 2015.
- Secured All India Rank 11 amongst 120,000 candidates in JEE Mains B.Arch 2015 .
- Secured State Rank 44 amongst 130,000 students in Telangana EAMCET 2015.

#### TECHNICAL SKILLS

- Languages: C, C++, Java, Python, LATEX, MySQL.
- Libraries: PyTorch, Keras, Tensorflow.
- Software: Android Studio, Visual Studio, SolidWorks.
- Platforms: Windows, Linux, Git.

#### **Relevant** Courses

Speech & Natural Language Processing, Deep Learning, Artificial Intelligence, Machine Learning, Information Retrieval, Social Computing, Educational Data Analytics, Matrix Algebra, Intelligent Game Design, Image Processing, Probability and Statistics, Computer Networks, Operating Systems, Database Management Systems, Compilers, Computer Organization and Architecture, Theory of Computation, Software Engineering, Switching Circuits and Logic Design

#### EXTRA CURRICULAR ACTIVITIES

- **Mentored** 5 sub juniors in their academic and holistic development as a part of the Student Mentor Program at IIT Kharagpur.
- Volunteered as a **tutor** for Programming and Data Structures course organized by the Student Welfare Group IIT Kharagpur.
- Member of **National Service Scheme** at IIT Kharagpur. Volunteered for various social activities to develop the educational and living conditions in the rural areas around IIT Kharagpur.