Rohit Das

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY　　　　　　　　　　　　　　　　　　　　　Atlanta, GA
B.S in Computer Science (GPA: 3.97/4.00)　　　　　　　　　　　　　　　　　　　　May 2022
Focus: Artificial Intelligence, Integrated Devices
M.S. in Machine Learning (GPA: 4.00/4.00)　　　　　　　　　　　　　　　Expected: May 2023
Coursework: Deep Learning, Data Visualization, Computer Vision, NLP, Artificial Intelligence, Reinforcement Learning, Advanced Statistical Analysis, Machine Learning, Prototyping Intelligent Devices, Data Structures Algorithms, Systems of Deep Learning

EXPERIENCE

META / FACEBOOK　　　　　　　　　　　　　　　　　　　　　　　　　　　Menlo Park, CA
Data Science Intern @ AI for Augmented Reality Team　　　　　　　　　　　　　Summer 2022
- Analyzed and improved **extractive** and **abstractive** models for **on-device summarization** of messages to maintain **user privacy**
- Edited an algorithmic, **textrank**, **tagging**, and **span pointer** model from **rephrasing** to summarization task; Compared to **BART**
- Improved logic of span pointer model from original research paper to improve **rouge score** by **10 points** and match **state of art**
- Exported model to **AR** and **VR** devices and evaluated performance on document, video, trend, and meeting summarization

JOHN DEERE　　　　　　　　　　　　　　　　　　　　　　　　　　　　　Urbandale, IA
Data Science Intern　　　　　　　　　　　　　　　　　　　　　　　　　　Summer 2021
- Developed custom, **data-driven** optimization algorithm to optimize parameters for OpenCV **connected components** algorithm
- Created custom loss function based on **DIOU bounding box comparison** for quicker convergence for aforementioned algorithm
- Refactored manual **HIL Testing Pipeline** to increase testing comprehensibility and enable regression testing via **DISDATT**
- Applied **Unreal4 engine** to create a life-like testing environment that increased testing comprehensibility by **300%**

GEORGIA INSTITUTE OF TECHNOLOGY　　　　　　　　　　　　　　　　　　　Atlanta, GA
Graduate Teaching Assistant for Machine Learning　　　　　　　　　　　　Aug 2020 - Present
- Developed class assignments, quizzes, and projects
- Held weekly office hours, recitations, and live QA sessions during lectures
- Taught mathematical background and programming implementation of supervised (**Neural Networks, Random Forests, Naïve Bayes Classifiers**) and unsupervised (**KMeans, GMM, DBSCAN, Logistic and Linear Regression**) machine learning algorithms

RESEARCH

SYSTEMS FOR ARTIFICIAL INTELLIGENCE LAB　　　　　Georgia Institute of Technology, Atlanta, GA
Graduate Researcher　　　　　　　　　　　　　　　　　　　　　　　　Aug 2022 - Present
- Leading a research team of 2 PhD and 2 M.S. students to improve **knowledge distillation** techniques for **GNNs**
- Pioneered idea along with validating mathematical proof that beats current state of the art by **2 orders of magnitude**
- Currently writing a paper, on track to be accepted at **Neurips 2023** conference

SOCIAL AND LANGUAGE TECHNOLOGIES LAB　　　　　　Georgia Institute of Technology, Atlanta, GA
Undergraduate Research Assistant　　　　　　　　　　　　　　　　　　　Jan 2021 - Jan 2022
- Researched on what inappropriate behaviors occur on social media and who is causing them
- Created a **Data Mining Pipeline** to extract features from conversations on the mental health platform 7 Cups with **SQL**
- Categorized conversations with **BOW**, **GPT**, and **BERT** encoding and **DBSCAN, GMM, KMeans,** and **Hierarchical** clustering
- Worked in a team of 2 to implement a deep multi-label model trained with Kfold via **PyTorch** that predicted whether a message would be blocked and classified type of block with **92%** and **78%** accuracy respectively
- Work was awarded 1 of 3 **best Georgia Tech Undergraduate Research Projects for 2022**, published at GT Library [**PAPER**]

ENVIRONMENTAL HEALTH AND DISEASE LABORATORY　　University of South Carolina, Columbia, South Carolina
Research Assistant　　　　　　　　　　　　　　　　　　　　　　　　　　Summer 2017
- Created software to aid in the identification of a cure for Non-Alcoholic Fatty Liver Disease
- Created data-mining pipeline to extract features directly from immunoflouresence microscopy results
- Modified **SVM** and **DBSCAN** clustering algorithms on immunoflourescence microscopy results to find trends in data

SKILLS

- **Languages/Tools:** Python, Java, C, AWS, Linux, Node.js, HTML, JavaScript, Express, MongoDB, PyTorch, NumPy, Pandas, SQL
- **Qualitative Experience/Tools:** Agile, Scrum Master, Target Market Analysis, International Team Mgmt, Rally, GIT, Mercurial

PROJECTS

HATEFUL MEMES　　　　　　　　　　　　　　　　　　　　　　　　　　　　Aug 2021
- Created deep **multimodal** models to classify memes as hateful or non-hateful as part of Facebook's Hateful Memes Challenge
- Top performing model was built on CLIP, achieving an AUROC of **80.40** and an accuracy of **73.2%**, improving on prior baselines
- Other attempts included Visual BERT COCO, RoBERTa, ViLBERT, and a BERT model fine tuned for toxicity [**CODE**]