Chandan Reddy Akiti

MS in Computer Science & Engineering

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Deep Learning Engineer with a strong theoretical and practical knowledge in NLP. Highly knowledgeable in Language Models and adept with current NLP research. I am passionate about building robust end-to-end machine learning systems.

Education

MS in Computer Science & Engineering - Pennsylvania State Univerisity — Aug 2019 - Present
GPA : 3.74/4.0; **Courses** : Deep Learning, NLP, Computer Vision II, Large-Scale ML, Distributed Systems, Algorithm Analysis

B.Tech in Computer Science & Engineering - Indian Institute of Technology (IIT), Madras — Jul 2011 - May 2015

Experience

Graduate Research Assistant — Pennsylvania State University, PA

Large-Scale Information Extraction | Advisors : Anna Squicciarini, Sarah Rajtmajer — Jan 2020 - Present

- Working on **Information Extraction**, studying information disclosure discourse in **Twitter** user communities during pandemic.
- Conducted research on deep learning techniques for effective information extraction in large text.
- Provided comprehensive research support when designing and executing large-scale experiments.
- Published research in EMNLP (findings) and AAAI (workshop) conferences.
- Funded by National Science Foundation (NSF)

Software Development Engineer — Samsung Research India, Delhi

Healthcare AI (Research) | Vision Intelligence Team — Apr 2018 - Jul 2019

- Developed remote health monitoring algorithms for Samsung Robot using *Computer Vision*, *Signal Processing*.
- **Visual PPG** : Developed a novel algorithm for **heart signal estimation** using **temporal tracking of skin-clusters** in face video.
- Implemented **classification** models for arrhythmia detection using Visual PPG data collected from 250 subjects.
- **Managed** a team of two and organized task scheduling and code review.

Fashion Recommendation System | Vision Intelligence Team — Jun 2017 - Mar 2018

- Developed an end-to-end **live fashion recommendation** system for E-commerce application in Samsung Smart TV.
- Trained **object detection, segmentation** models in PyTorch for clothing recognition.
- Implemented a "Street Image to In-Shop" **clothing retrieval** deep learning framework.
- Integrated the clothing retrieval framework to Samsung TV Content Recognition system and deployed on AWS.

Automated Content Recognition (ACR) | Data Intelligence Team — Jul 2015 - May 2017

- Maintained the **cloud infrastructure** of over 10 distributed servers for ACR analytics.
- Optimized the **Kafka-Cassandra pipeline** and **ElaticSearch** query templates to reduce latency by **25x**.
- Obtained a **reduction of over 40%** in the total ACR network traffic by implementing distributed caching modules.
- Implemented deployment scripts with **AWS CloudFormation** for managing EC2 instances and auto-scaling.

Academic Projects

Few-Shot Learning for Named-Entity Recognition (NER) | MetaLearningForNER — Sep 2020 - Dec 2020

Trained an **NER classifier** on OntoNotes 5.0 dataset using Prototypical Network in **Few-Shot learning** setting. Reported the effects of distance metric (euclidean vs hyperbolic), layer-wise performance for BERT and domain transfer ability on WNUT and I2B2'14 data.

Distributed KV-Storage | kv-store — Sep 2020 - Dec 2020

Implemented a **linearizable** key-value storage system with Multi-Paxos consensus algorithm using gRPC (GCP). Tested the implementation for non-byzantine failures in geo-distributed setting on Google Cloud Platform.

Object Tracking with Capsule Networks | RAT-Tracker — Jan 2020 - Apr 2020

Integrated the capsule networks to **object tracking** neural network SiamFC. Studied the effect of capsule networks on object tracking of different motion classes using the GOT-10K dataset. Observed **improvements** in Illumination Variation, Background Clutters, Low Resolution and Motion Blur classes.

Robust Semantic Role Labeling | Robust-SRL — Jan 2020 - Apr 2020

Trained a distributionally robust model for Semantic Role Labeling task in Natural Language Processing. Obtained **better** performance on **low-represented topics** without impacting the overall performance.

Visual Storytelling | GCN-GLAC — Sep 2019 - Dec 2019

Trained an **encoder-decoder** model for generating story for a sequence of images using the Visual Storytelling (VIST) dataset. Presented a hybrid network to visualize cross-image attention.

Skills

Programming	Python, C++, JavaScript, Go, Bash
Machine Learning	PyTorch, TensorFlow, Keras, Scikit-learn
Systems	Node.js, Redis, GCP, Apache Thrift, Kafka, Zookeeper, Cassandra, MongoDB, SQL
AWS	Elastic Beanstalk, CloudFormation, S3, Auto Scaling, Elasticsearch

Publications

1. Chandan Akiti, Anna Squicciarini, and Sarah Rajtmajer. A semantics-based approach to disclosure classification in user-generated online content. In *Findings of the Association for Computational Linguistics : EMNLP 2020*, Online, November 2020. ACL
2. Chandan Akiti, Sarah Rajtmajer, and Anna Squicciarini. Contextual Representation of Self-Disclosure and Supportiveness in Short Text. In *Proceedings of the AAAI-20 Workshop on Affective Content Analysis*, New York, USA, 2020. AAAI