Subendhu Rongali

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EDUCATION

UNIVERSITY OF MASSACHUSETTS AMHERST
PhD in Computer Science
Expected April 2023 | Amherst, MA
GPA: 4.0/4.0

UNIVERSITY OF MASSACHUSETTS AMHERST
MS in Computer Science
Grad. May 2020 | Amherst, MA
GPA: 4.0/4.0

INDIAN INSTITUTE OF TECHNOLOGY MADRAS
BTech in Computer Science & Engineering
Grad. May 2014 | Chennai, India
GPA : 8.8 / 10

COURSEWORK

GRADUATE
Advanced Algorithms
Machine Learning
Reinforcement Learning
Probabilistic Graphical Models
Deep Learning/Natural Language Processing

UNDERGRADUATE
Artificial Intelligence
Basic Graph Theory
Decision Models
Fundamentals of Operations Research
Introduction to Machine Learning
Natural Language Processing
Social Network Analysis

SKILLS

PROGRAMMING
Over 5000 lines:
Python • C# • C • Java • Javascript
Over 1000 lines:
C++ • Coq
Familiar:
MATLAB • R • Lisp • Prolog • MySQL

MACHINE LEARNING
Preferred frameworks:
PyTorch • MXNet
Other frameworks:
TensorFlow • Keras • Theano

WORK EXPERIENCE

AMAZON ALEXA AI | Applied Scientist Intern
Summer 2019 and 2020 | New York City, NY

- During both internships, I was part of the team that worked on the Spoken Language Understanding (SLU) System in the Alexa voice assistant.
- In Summer 2019, I worked on improving the language understanding module of the SLU pipeline. Our work was published at The Web Conference 2020.
- In Summer 2020, I worked on End-to-End SLU using cutting edge Deep Learning models. This work is under review at AAAI 2021.

EPIC SYSTEMS CORP. | Software Developer
Oct 2015 – Sep 2017 | Verona, WI

- Part of the R&D team that worked on the Ambulatory (Outpatient) Software.
- Lead developer/owner for Lifetime, a visual and interactive display of a patient's lifetime clinical data like physician encounters, problems and medications.

IBM RESEARCH | Research Software Engineer
Oct 2014 – Sept 2015 | Bangalore, India

- Worked with Watson, Cognitive Research, and Smarter Planet Solutions teams on a number of research problems, both in-house and for clients.
- Published work in COMSNETS, SmartGridComm, and IEEE-ISGT.

CURRENT RESEARCH PROJECTS

- **Unsupervised parsing with DIORA**
  Work with Prof. Andrew McCallum.
  DIORA is a fully unsupervised method based on dynamic programming that induces tree-structure in natural language sentences. I'm working on improving this algorithm and applying to various standard parsing tasks.

- **Safe and interpretable machine learning in health-care**
  Work with Prof. Hong Yu.
  Projects include predictive modelling, safe RL, and medical knowledge graphs

RECENT PUBLICATIONS

- **Unsupervised Parsing with S-DIORA: Single Tree Encoding for Deep Inside-Outside Recursive Autoencoders**
  Andrew Drozdov, Subendhu Rongali, Yi-Pei Chen, Tim O'Gorman, Mohit Iyyer & Andrew McCallum. EMNLP 2020

- **Learning Latent Space Representations to Predict Patient Outcomes: Model Development and Validation**
  Subendhu Rongali, Adam Rose, David McManus, Adarsha Bajracharya, Alok Kapoor, Edgard Granillo & Hong Yu. Journal of Medical Internet Research (JMIR 2020)

- **Don't Parse, Generate! A Sequence to Sequence Architecture for Task-Oriented Semantic Parsing**
  Subendhu Rongali, Luca Soldaini, Emilio Monti & Wael Hamza. The Web Conference 2020 (WWW '20)

SCHOLARSHIPS

- **Sudha and Rajesh Jha Scholarship 2019.**
  College of Information and Computer Sciences, UMass Amherst