Varun Iyer

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EDUCATION

University of Massachusetts Amherst: May 2020   **Johns Hopkins University: May 2022**

B.S. Computer Science   **M.S.E. Computer Science**

Dean's List, Honors College   Major GPA: 3.8   **Relevant Coursework:**

Scholar with Great Distinction   Cum. GPA: 3.7   Semantics, Parallel Programming

SKILLS

ML: TensorFlow, PyTorch, NumPy, Sci-kit Learn, SciPy   **Multiuse:** Python, JavaScript, Java, C++, C, Git

WORK & RESEARCH EXPERIENCE

Research Assistant, Johns Hopkins University   **Jun 2020 - Present**
- Working with **Professor Benjamin van Durme** on fine-grained entity typing using **PyTorch**
- Developed crucial data pipeline from scratch and scaled existing model to over 1000x more data

Research Assistant, UMass Amherst   **Sep 2018 - May 2020**
- Worked with **Professor Andrew McCallum** on fine-grained entity typing with hierarchical embeddings
- Developed a stacked BiLSTM with embedding-based loss functions and hierarchical type constraints
- Linked product datasets including Amazon-GoogleProducts with a **LSTM + CNN compound neural net**

Undergraduate Course Assistant, UMass Amherst   **Sep 2018 - May 2020**
- Graded theory-intensive problem sets and exams in Artificial Intelligence and Algorithms
- Helped students in Computer Systems complete programming assignments written in C and assembly

Research Intern, University of Southern California   **May 2019 - Aug 2019**
- Worked with **Professor Xiang Ren** to apply reinforcement learning to knowledge graph (KG) reasoning
- Formulated a joint text-structure embedding to augment KG inference paths with text entities
- Trained a **PCNN with attention** to perform distantly supervised relation extraction on inference paths

Research Intern, Information Sciences Institute   **May 2018 - Aug 2018**
- Worked with **Professor Craig Knoblock** to build and link entities in a KG of space-related objects
- Implemented level-based access control for data across multiple **Elasticsearch** indices
- Developed multiple web crawlers that continue to scrape information on over 10,000 space objects

PROJECT EXPERIENCE

GuideDog   **Jan 2018 - Mar 2018**
- **Finalized** at UMass Innovation Challenge, **3rd Place** at ULaunch Innovation Competition
- Created an Android app that helps visually impaired people navigate complex indoor environments
- Implemented real-time object detection using a **TensorFlow** model trained on Microsoft's COCO dataset

AWARDS

UMass Innovation Challenge Finalist: Among top 7 teams out of over 100 competing

University of Massachusetts Amherst Chancellor's Scholarship: $30,000