Manan Talwar

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Education

University of Massachusetts Amherst · **January 2023 - Present**
Master of Science in Computer Science (concentration in Data Science) · *Amherst, MA*

University of Massachusetts Amherst · **Aug. 2020 – Dec. 2022**
Bachelor of Science in Computer Science and Mathematics (GPA: 3.916/4.00) · *Amherst, MA*

Relevant Experience

Graduate Teaching Assistant · **January 2023 – Present**
Manning College of Information & Computer Sciences, UMass Amherst · *Amherst, MA*
- Assisted the faculty in the conduct of CICS110: Foundations of Programming with an enrolment of 250 students.
- Prepared and conducted weekly laboratory sessions for 60 students.
- Conceptualized and designed homework problems and lab exercises.

Tech Lead · **January 2023 – Present**
Learning Resource Center, UMass Amherst · *Amherst, MA*
- Led the development of an operational software for scheduling, shifts and payroll management serving 300+ users using Django and deployed it using AWS and Docker.
- Led website and database development using Drupal, Jekyll, PHP and MySQL.

Data Science for Common Good Fellow & NLP Engineer Intern · **June 2022 – August 2022**
Center for Data Science · *Amherst, MA*
- Developed two efficient scrapers to aggregate app reviews from Google Play Store and Apple App Store
- Developed a SpaCy classification pipeline based on the RoBERTa transformer model to run on AWS achieving high performance with a mean NDCG of 0.91 and a mean average precision (MAP) of 0.91 on the held-out test set.
- Developed a PostgreSQL database to store app reviews as well as model characteristics.

Software Engineer & Business Developer · **Sep 2021 – December 2022**
BUILD UMass · *Amherst, MA*
- Conceptualized a business model and tech stack for Funnl, an early stage CRM startup.
- Served as the Lead and the Scrum Master for AuCoDe projects, managing a team of 6 software developers and 2 business developers across 3 NLP/ML/AI projects.

Selected Works

Lightning: Integrated GUI and REST API | *NodeJS, MongoDB & React* · **September 2022 - December 2022**
- Developed an MVP REST API and a GUI that summarizes time series data in a visually appealing way for ISO New England under an agile based scrum framework.

AppDanger: Aggregation of harmful applications | *SpaCy, PostgreSQL & AWS* · **June 2022 - August 2022**
- Created a RoBERTa classification pipeline to help parents protect their children from technology-driven exploitation and deployed it in an EC2 bucket on AWS.

A Review of ML Techniques for Social Network Analysis | *Python* · **October 2022 - December 2022**
- An academic comprehensive review paper evaluating the state-of-the-art machine learning tools for Social Network Analysis reaching performance comparable to existing literature in the domain.

Technical Skills

Languages: Python, Java, C/C++, JavaScript/TypeScript, SQL, Ruby, Swift, MATLAB
Frameworks: React, Rails, Flask, Django, PyTorch, Keras, TensorFlow, Bootstrap, SQL, Git, LaTeX, JUnit, NodeJS
Technologies: Linux, AWS, PostgreSQL, MongoDB, Google Cloud, GitHub, Figma, Office Suite, Adobe Suite, GSuite

Honors

Dean's List Award: Fall 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022
Chancellor's Award: Scholarship worth $16000 per year to fund Bachelor's degree at UMass.
Dr. Howard Smith Summer Research Award 2022: $2500 in recognition of exceptional research.
Manning CICS Bay State Fellowship: Full sponsorship for Master's degree at UMass CICS, starting Spring 2023.

Extracurricular Experiences

UMass ACM (Executive Member & Design Secretary), **HackUMass IX** (Organizer and Tech Lead), **Innovation and Entrepreneurship Scholar** (Isenberg School of Management), **BUILD UMass** (Leadership, Tech Lead & Executive Member).