Manay Patel

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EDUCATION

University of Massachusetts - Amherst **Expected May 2023**
Bachelors of Science in Computer Science with Minor in Mathematics Amherst, Massachusetts
Honors: 4.0 GPA, Dean's List all semesters, Chancellor's Award Merit Scholarship, Member of Honors College

WORK EXPERIENCE

Research Intern — Information Extraction and Synthesis Laboratory, UMass - Amherst **May 2021 - Present**

- Worked on Author Name Disambiguation(AND) System on Patent Inventors using a state-of-the-art system, S2AND.
- Wrangled raw data from PatentsView of around 115million US patents to readable data for S2AND.
- Created Specter Embeddings on training data of 30,000 patents using the Hugging Face library.
- Fed the wrangled data into AlenAI's S2AND Disambiguator System to perform Patent Inventor Disambiguation.
- Implemented LightGBM classification on the new data set to help cluster individual patent inventors.
- Evaluated S2AND's pairwise similarity and hierarchical clustering to assess the model on the Patents domain.

PROJECTS

TicTacToeAI App *(Android Studio, Java, Kotlin, XML)* **Mar 2021 - May 2021**

- Developed an android application to play tic-tac-toe against an AI agent.
- Created an app layout from scratch using XML on Android Studio.
- Engineered a tic-tac-toe AI that uses a minimax algorithm to calculate its next move depending on the difficulty parameter.
- Designed an API for the AI search which works on any tic-tac-toe game board hence making it useful for future projects.

Personalized PageRanker *(Java, Eclipse)* **Feb 2021 - Mar 2021**

- Calculated personalized PageRanks for a set of pages.
- Tested and ran on 5 million lines of unique text and 1 million unique links.
- Created an indexing application for data retrieval, currently working on implementing a query system and a web crawler.

Arithmetic Client Solver *(C, Vim, Unix)* **Nov 2020 - Dec 2020**

- Implemented socket connection to a remote server using appropriate protocols such as TCP/IP.
- Extracted 300 arithmetic expressions from server messages and returned solved answers to each.
- Learned proper use of protocols and Client-Server application on a Unix system using C.

ImBroke.Tech *(CSS, HTML, JS, Java)* — **Best Documentation Award - HackUMass 2019** **Oct 2019**

- Developed as a project for a hackathon in 36 hours.
- Prototype made in Java and then further implemented as a web app.
- Constructed student financing app that provides financial advice based on multiple, user-adjustable parameters.

Bluetooth LED Lamp *(Arduino)* **Dec 2020 - Jan 2020**

- Built a multi-colored LED lamp using the ATmega328P chip on the Arduino.
- Used a BlueTooth module to control voltage output resulting in brightness and color changes of the LED bulb.
- Proficiently coded a program to accept data packages from the BlueTooth module to convert into LED instructions.

LEADERSHIP EXPERIENCE

Coding Head of Robotics Club **May 2018 - Jan 2019**

- Mentored members in robot building and programming for robot kits such as Lego Mindstorms.
- Tutored club members with coding assignments in C++ resulting in improved grades.
- Led a 3 student team into a robotics competition winning the **Best Teamwork Award**.
- Cooperated with teammates to work efficiently while coming up with structural design and improvements on the spot.

SKILLS

- **Languages:** C, C++, Java, Javascript, Python, Kotlin
- **Technologies:** Git, Jupyter, Tensorflow, PyTorch, IPython, SSH, Eclipse, Unix, MySQL, NetBeans, Vim, VSCode
- **Other:** Search Engine, AI, Data Wrangling, Advanced Data Structures and Algorithms, Statistics and Probability