**Aditi Kumar**

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**skills**

* **Languages**: C++ , Python ,C, Racket, Java
* **Frameworks/Libraries**: PyTorch, TensorFlow, React, AWS, Git, GitHub, Selenium
* **Database Management**: SQL, NoSQL

**work experience**

**Research Engineer**

Illinois Institute of Technology, Chicago, IL JULY 2024 - Present

* Led a project focused on enhancing ambulation safety for cane users in moderately crowded environments.
* Strengthened engineering skills in user-centered design, material evaluation, and prototyping.

**Teaching Assistant - Systems Programming** (C/C++)

Illinois Institute of Technology, Chicago, IL JAN 2024 - May 2024

* Mentored in development and instruction of curriculum for CS 351 course, helping to increase student pass rates by 15% through tailored support.
* Provided students with hands-on experience in systems programming using x86 architecture.

**Research Assistant** (Java, C++, C)

Illinois Institute of Technology, Chicago, IL AUG 2023 - May 2024

* Researched and executed Caper, an open-source tool for converting packet filters into machine-executable instructions, enhancing network traffic analysis efficiency by 20%.

**IIT ECO CAR EV Challenge** (Python)

Illinois Institute of Technology, Chicago, IL AUG 2023 - May 2024

* Designed and optimized autonomous vehicle algorithms with Python and PyTorch, improving obstacle detection accuracy by 15%, using CNNs and sensor fusion.
* Integrated sensor data (cameras, LiDAR, radar), boosting detection accuracy by 25%.

**Software Engineer Intern** (Java, TypeScript, Python)

MapMyIndia, Delhi, India MAY 2023 - JULY 2023

* Architected and debugged software solutions using Python, Java, and TypeScript, executing machine learning algorithms with PyTorch and TensorFlow, contributing to a 10% increase in application efficiency.
* Implemented an automated CAPTCHA recognition system with Tesseract OCR, achieving a 70% recognition accuracy and reducing manual verification time by 50%, demonstrating proficiency in computer vision and image processing.

**Research Intern**

National University of Singapore, Singapore JUN 2022 - JUL 2022

* Engineered a prototype for visually impaired accessibility using audio cues through object detection, employing machine learning algorithms (specifically CNNs) and distributed system architecture to handle real time data processing.
* Incorporated advanced optimization techniques, including linear programming and nonlinear optimization, to achieve a 15% improvement in object detection accuracy and a 20% increase in computational efficiency in software applications.

**PROJECTS**

**Twitter Web Scraping (Python, Tweepy, BeautifulSoup, SQLite)**

* Engineered a Python web scraper with Tweepy and BeautifulSoup to collect and store Twitter data in SQLite.

**education**

Illinois Institute of Technology, Chicago, IL May 2024

**Bachelor of Science, Computer Science**

**Related Coursework:** Operating Systems, Data Structures and Algorithms, Programming languages & Translators, Database Organization