

Abhik Roy

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EDUCATION

- **Rochester Institute of Technology** Rochester, NY
Master of Science in Computer Science; GPA: 3.52 Aug 2021 - Dec 2023
- **University of California, San Diego** La Jolla, CA
Bachelor of Science in Computer Science; GPA: 3.4 Sept 2017 - August 2021
- **Rochester Institute of Technology** Rochester, NY
Advanced Certificate in Artificial Intelligence Aug 2021 - December 2022

SKILLS SUMMARY

- **Languages:** Python, C++, Java, C, SQL, Unix scripting, MATLAB, ARM, x86 assembly
- **Tools:** GIT, Docker, React Native, Node, Express, GraphQL, Pytorch, Tensorflow, OpenCV, cuda
- **Courses Taken:** ML Systems Implementation, Software Engineering, Computer Vision, Algorithms, Operating Systems

EXPERIENCE

- **RIT Computational Biomedicine Lab** Rochester, NY
Research Assistant May 2022 - August 2022
 - **Sudden Cardiac Death Prediction from MRI Images:** Worked on developing a model to predict risk of sudden cardiac death from heart scans. Worked on improving model accuracy by combining raw image data and medical covariate data about patients. Contributed to furthering the project by discovering that a different loss function was better suited to modeling survival prediction, and implemented a new model to predict survival rates.
- **RIT Computer Science Department** Rochester, NY
Teaching Assistant Jan 2022 - May 2022
 - **Grader for CSCI 630 : Introduction to Artificial intelligence :** Wrote bash scripts to grade assignments, ran and graded assignments for the course.
- **Amici (RIT based start-up)** Rochester, NY
Part-Time Developer April 2022 - August 2022
 - **Fullstack development:** Worked on designing and implementing various features for an ios app, specifically a social media app targeted towards students living on college campuses. Used React, Node, Express and GraphQL. Contributed to the project by implementing front-end features such as navigation buttons and the user feed page; also worked on implementing and debugging an event scheduling system.
- **UC San Diego (Engineers for Exploration)** La Jolla, CA
Research Assistant September 2020 - March 2021
 - **Burrowing Owl Classification Project:** Worked with camera trap images from the san diego zoo to implement a Machine Learning Pipeline to isolate and classify borrowing owls in the images. Used the microsoft megadetector model to implement the classifier, contributed to making the project more efficient by writing a script to automate training and test dataset generation and optimize the training process.
- **Datamatics Global Services** Mumbai, India
Intern July 2018 - September 2018
 - **Process Automation Internship:** Wrote automated tests using JavaScript framework for process automation use cases. Implemented an in house project using the company automation tool which involved automating the process of ordering office supplies through Amazon.

ACADEMIC AND PERSONAL PROJECTS

- **Vehicle Tracking System using OpenCV:** Implemented an automated vehicle counter system using the YOLOv4 model, finetuned to improve detection accuracy. Implemented a baseline detection model using a traditional image processing chain and convex hulls, in order to compare to the deep learning approach. (May '23)
- **StatsBox - A python module for statistical models:** Designed and implemented a python package containing tools like linear and logistic regression, decision tree classifier, kmeans clustering, tf-idf vectorization. All models were tested and bench marked with respect to the scikit-learn package; along with the necessary documentation. (December '22)
- **Audio and Image Classification using Deep Neural Networks:** Implemented an LSTM Recurrent Model for classifying audio recordings of instruments into 10 instrument types. Implemented CNN models such as LeNet in python using tensorflow keras for multiclass image classification. Implemented a transfer learning classifier using pre trained deep networks like vgg19. (May '22)
- **Receive (Agile Development Project):** 10 week long project where we implemented paperless receipt web app using Node.js, Express.js, HTML, CSS (Bootstrap), and MySQL. Served as the system architect on a team of 10 students; followed agile methodologies for team coordination, sprint planning, and artifact maintenance. (December '19)