

SAKSHI PATIL

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EDUCATION

Northeastern University

Boston, MA

Master of Science, Computer Science; **GPA: 3.9/4.0**

September 2022 – December 2024

- **Relevant Coursework** - Programming Design Paradigm, Algorithms, Database Management, Human Computer Interaction, ML
- **Leadership & Academic Positions:** Graduate Teaching Assistant (Fall 22), Lead Teaching Assistant (Spring 23, Fall 23)

Sardar Patel Institute of Technology

Mumbai, India

Bachelor of Technology, Computer Engineering; **GPA: 8.99/10.0**

August 2018 – May 2022

- **Relevant Coursework** - Object Oriented Programming, Data Structures, System Design & Analysis, Software Engineering, Data Science

WORK EXPERIENCE

Addgene Inc. | Software Engineer (Data) Co-op

Watertown, MA

Python, SQL, Docker, Django, AWS (S3), BigQuery, Shipyard, LookerStudio, LIMS, Git

January 2024 - August 2024

- Automated solutions using **Django and SQL**, reducing lab sample processing time by **70%**, and integrated with existing UI system
- Utilized **bioRxiv (Bio research)** and **AWS S3 bucket** for data retrieval, to identify **potential plasmid deposits** for Addgene
- Diagnosed and **resolved Zendesk (customer support) pipeline failures**, preventing recurrence and reducing downtime by 40%
- Streamlined plasmids sequence feature pipeline to **handle data gaps**, minimizing interruptions during periods of no new data
- Augmented **test coverage in addgene-data-pipelines**, achieving 100% validation across all functions, classes, and pipelines

Sardar Patel Institute of Technology | Software Research Intern

Mumbai, India

Python, PyTorch, WGAN, CNN, Discriminator, Scikit-learn, Git

January 2022 - May 2022

- Devised an end-to-end approach using **WGAN** architecture, to detect deep fakes by **categorizing genuine and counterfeit images**
- Leveraged CELEBA dataset for training and testing, employing **image normalization and resizing** for optimized model performance
- Achieved an **accuracy of 74% and a validation accuracy of 63%** on real and fake faces datasets using **CNN and discriminator models**
- Collaborated with a **cross-functional team** to streamline operations and **fine-tune hyperparameters**, optimizing model performance

Ask in City | Software Developer

Varanasi, India

PHP, MySQL, HTML, CSS, JavaScript, cPanel, PayU(Payment Gateway), Git

May 2020 - July 2020

- Spearheaded the "Manufacturer Worlds" project, creating an **e-commerce platform** for a brand management company in India
- Administered a database with over **100 sellers and 350 listings**, demonstrating advanced **data handling and organization capabilities**
- Implemented a **secure payment gateway**, increasing the successful platform transactions by 40% and enhancing revenue streams

PROJECTS AND RESEARCH PUBLICATIONS

HealthSync: Patient Management System | React, Node.js, Express.js, DynamoDB, AWS (SQS, SES, Lambda)

- Built a Patient Tracker app with React and Node/Express.js, managing records/appointments in DynamoDB with **sub-second** latency
- Leveraged AWS Lambda for **serverless functions** and JWT for secure user authentication, **cutting backend processing time by 40%**
- Employed AWS SQS for **message queuing** and SES for **automated notifications**, ensuring efficient and reliable communication

Stock Portfolio Management | Design Patterns, Java, API, Swing

- Engineered a GUI Stock Trading platform using **Java, MVC pattern, OOP, and builder design**, to enhance functionality & user experience
- Achieved **94% code coverage**, ensuring robustness via rigorous **JUnit testing** to minimize defects, adhering to **SOLID** principles
- Integrated **Alpha vantage API**, enhancing reliability, and reducing **data retrieval latency** for improved portfolio management

Autonomous Robot Navigation | Python, Pathfinding Algorithms, Matplotlib

- Investigated diverse pathfinding algorithms, including **A*, Bellman Ford, and Dijkstra's**, for optimal autonomous robot navigation
- Constructed **100x100 grid-based environment model**, attributing values to cells for accurate obstacle representation
- Orchestrated an intricate comparative analysis, achieving **90% obstacle avoidance success rate** in complex environments

Prioritization of Districts for COVID-19 Vaccine Administration | Python, SARIMAX, Clustering Algorithm, Pandas, Matplotlib

- Led a project to **enhance vaccination efficiency** with a district-based priority system, increasing vaccine distribution by 35%
- Developed a SARIMAX model with **98.6% accuracy** in **predicting weekly COVID-19 cases**, enhancing public health decision-making
- Executed a **K-means** clustering algorithm to categorize **31 districts into 6 clusters**, facilitating targeted vaccine distribution strategies

TECHNICAL SKILLS

Programming Languages: Python, Java, JavaScript, SQL, R, PHP, CSS, HTML, Bash, NoSQL, C, C++, C#

Libraries & Frameworks: Django, PHP, React.js, Node.js, Flask, Express.js, ASP.NET

Database & Cloud Technologies: SQL, MySQL, Amazon DynamoDB, MongoDB, Elasticsearch, Google Cloud Platform (BigQuery), AWS

Tools: Docker, Git, Linux (UNIX), Shipyard, Looker Studio, cPanel, PhpMyAdmin, JUnit, Selenium, Ansible, Jenkins, Marvel, Kanban board

Hands-on skills: Agile, Scrum, CI/CD, Web Development, Database Management, OOP, Data Analysis and Visualization

ACHIEVEMENTS & EXTRACURRICULARS

Best Research Paper Award [🏆](#): Authored an award-winning research paper accepted at ECREMLACI 2021, acclaimed by 50+ institutions

Leadership: Led strategic planning and team management as Executive Head of Sports Committee, driving successful sports initiatives