DHRUVIL BHATT

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EDUCATION

University of California, Irvine (Irvine, CA)   September 2022 – December 2023
Master of Computer Science   **GPA: 3.97/4.0**
Current Coursework: Advanced Programming, Database Management, Machine Learning, Algorithms, Operating System

DA-IICT (Gandhinagar, India)   August 2018 - May 2022
Bachelor of Technology in Information and Communication Technology   **GPA: 3.8/4.0**
Relevant Coursework: Computer Networks, Data Structures, Algorithms, Object Oriented Programming (OOP)

TECHNICAL SKILLS

AWS Certified Cloud Practitioner, Azure, Python, JavaScript, HTML/CSS, React.js, Next.js, Node.js, SQL, MongoDB, C, C++, **Machine Learning (researcher)**, Artificial Intelligence

EXPERIENCE

Synaptics Incorporated (Irvine, USA)   June 2023 – September 2023
Audio Software Intern

- Engineered an **Azure-based** calling application, integrating **Microsoft Graph API v1.0**, MSAL (Microsoft Authentication Library), and MS Teams with Synaptics' headsets for audio testing.
- **Interacted with product managers** to formulate product requirements, and integrated **speech recognition** feature into the Azure calling application for generating speech-to-text transcripts for headset debugging.
- Created a software application on host side to parse UART (universal asynchronous receiver transmitter) data formatted in binary HCI format. Implemented extraction of debug messages from received data.
- Devised a **pipeline for encrypting** filter coefficients used by Synaptics' headset for noise cancellation purposes.

HuddleUp (New York, USA)   March 2022 - June 2022
Software Engineer Intern

- Worked in a high-growth, **fast-paced startup environment** to build a custom LMS (Learning Management Systems) in collaboration with frontend team to improve productivity of client companies' employees.
- Executed web pages (using **Next.js** and Tailwind CSS) for adding new channels, challenges, and quizzes to a specific workspace, facilitating delivery of relevant skill sets to employees.

DA-IICT Research Lab (Gandhinagar, India)   January 2022 - June 2022
Software Engineer Intern (Computational Finance Researcher)

- Led a team of 3 researchers in curating the **largest open-source Corporate Credit Rating dataset**, consisting of 7805 data points, 4 times larger than the previous largest public dataset. (Dataset Link).
- Devised a set of time-independent strategies (using **Explainable AI/ML techniques**) based on financial ratios to **help corporate firms attain investment grade rating** with a mean precision value of **95%**.
- Employed the GraphViz package in Python to visualize the **Decision Tree model** (research paper listed on **SSRN's Top 10 download list**).

Institute for Plasma Research (Ahmedabad, India)   October 2020 - August 2021
Software Engineer Intern (Researcher)

- Designed an efficient serial algorithm code in C++ for generating synthetic images of plasma.
- Collaborated with a fellow researcher to combine noises of 3 distributions to construct realistic plasma images.
- **Parallelized** (multi-threaded) the serial algorithm (with **OpenMP API**) using **concurrent programming**, resulting in **2100%** growth in speedup (creating a synthetic image of plasma in less than **0.65 seconds**).

Indian Institute of Technology (IIT) – Bombay (Mumbai, India)   April 2020 - June 2020
Software Engineer Intern

- Facilitated content migration from Drupal 6 and 7 websites to Drupal 8 **via custom-made plugins**.
- **Migrated** *hss.iitb.ac.in* from Drupal 7 to 8 **with 100% retention of website content**, harnessing custom-made plugins and other modules (Fellowship Report).

PROJECTS

DocLab - Work Smarter, Collaborate Better | *AWS EC2, React.js, Node.js, Python, Flask, Quill.js, Socket.io, MongoDB*

- Worked in a collaborative environment to develop DocLab, an innovative **AI-powered document editor** featuring auto text correction, paraphrasing, summarization, collaboration, and video calling support.
- Created a polymorphic UI using React.js and Tailwind CSS for a rich-text editor built with Quill.js.
- Consolidated video calling and screen-sharing capabilities, ensuring a **low video/audio latency** of 300ms.
- Deployed the **Flask-based AI model on AWS EC2 for scalable and reliable access** to DocLab's AI features.
- Designed REST APIs with Axios for seamless frontend-backend communication and MongoDB CRUD operations, ensuring fast page load time (< 2 seconds).

Job Search Portal | *Next.js, MongoDB, Tailwind CSS, Recoil* | (Link to web app)

- Launched a **responsive social media platform**, allowing users to post job seeking/opening information.
- Accomplished theme toggle between 2 themes, and utilized Google API for the latest news posting feature.
- Executed MongoDB CRUD operations using Mongoose, and utilized Recoil to manage state of the application and improve performance.