Vinayak Patil

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EDUCATION

University of Southern California — Jan 2023-Present
Masters in Computer Science; GPA: 3.85/4.0 — Los Angeles, California
Courses: Analysis Of Algorithms, Database Systems, Operating Systems, Security Systems

The National Institute of Engineering — Aug 2017-Aug 2021
Bachelors in Computer Science; GPA: 9.21/10.0 (Secured university rank 1 in last semester with 10.0 GPA) — Mysore, India
Courses: Operating Systems, Big Data, Cloud Computing, Cryptography, Data Mining, Distributed OS, Web Technologies

SKILLS

Languages: C, C++, Python, SQL (MySQL, PostgreSQL, Oracle SQL), JavaScript, Java, Git, HTML5, CSS, UNIX
Tools & Tech-Stacks: Pandas, NumPy, Tensorflow, SciPy, Keras, Apache, Spark, Hadoop, ReactJS, MongoDB, Node.js, Express.js, Docker, Kubernetes, Firebase, PyTorch, PowerBI, Tableau, Angular, Jenkins, Vue, Amazon Web Servcies(AWS)

EXPERIENCE

Information Sciences Institute, University of Southern California — Jun 2023-Present
Graduate Research Assistant — Marina del Rey, LA
- Detect and examine coordinated activity on social media, aiming to uncover deceptive patterns.
- Create and Dockerize a robust Deepfake detection web application leveraging Flask and Angular, seamlessly integrating MongoDB for data storage. Used AWS S3 for video uploads and optimized workflow with AWS SQS.

SanDisk, Western Digital Corporation — June 2021-Dec 2022
Software Engineer-1 — Bangalore, India
- Built complex ETL pipelines to handle huge inventory data sourced from various manufacturing plants.
- Created & deployed ML model to predict cash-flow over a period to improve collectors' efficiency by flagging customers defaulting from regular payment patterns. A significant **92%** accuracy was achieved and decreased latency by **88%.**
- Constructed APIs to fetch WD, Sandisk & G-Technology product reviews. Performed NLP based pre-processing techniques and used sentimental analysis to analyze each review. Spearheaded a team of 6 in a fast paced agile environment.

SanDisk, Western Digital Corporation — Jan 2021-May 2022
Software Engineer Intern — Bangalore, India
- Devised a robust web application to evaluate user's data in detail and return with statistical analysis and graphical charting. Constructed complex API pipelines to attain results **40x** faster and cut down total time-taken by almost **80%.**

IBM Research — Feb 2020-Aug 2020
Project Intern — Bangalore, India
- **GBDTs case study:** Performed a systematic research, data visualization and competitive analysis of GBDT algorithms benchmarked against IBM's SnapML. Directed the DevOps of ML models trained & deployed on PowerAI+RAPIDS cuDF.

PROJECTS

- **God's Eye**: Engineered a novel E2E automated system leveraging FaceNet, TP-GAN aiding manhunts & human tracking. Face encoding algorithm achieved **99.12%** acc, multi-processing strategy attained **8x** performance-gain. Nominated **Best Project.**
- **Automated Pollution Control & Traffic Analysis System**: Implemented Odd-Even traffic rule model, validated license plates and notified defaulters. Monitored real-time traffic and implemented parallel-processing resulting in **20x** faster.
- **Instant Messenger**: Designed a secure, space-efficient desktop application facilitating synchronous P2P messaging over a campus intra-network. Supported centralized recovery with RDBMS, multimedia support, and platform independence. Lead team of 4.
- **Attendance Buddy**: Devised a face recognition based attendance system for monitoring attendance of students. Utilized one-shot learning and YOLOv3 algorithm to cut down total time taken by 90% compared to other algorithms and 40% more accurate.

PUBLICATIONS

- Automated Human Tracking: An AI based Modular Approach. ICOSEC pg. 805-811. IEEE Xplore, 2021.
- Competitive Analysis of the Top Gradient Boosting ML Algorithms. ICACCCN, pg. 191-196. IEEE Xplore, 2020.
- Stock Prediction Overview and a Simple LSTM based Prediction Model." IRJET 2020 Vol 7. Issue 4. pg 5935-5940.

HONORS & AWARDS

- Received an award, "WE INNOVATE," from the Director of IT department for best performance at Western Digital.
- Got selected among 4 out of 250 students for IBM internship at NIE, HackMania - Secured national level 4th place.
- Best Intern - LTI, Always ranked among top 5 students in class during Bachelors, 4x debate winner at college.