Vikram Rao

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Engineering Innovation. Modern Leadership. New Initiatives

- Mobile Health, Wearable Tech, IoT, Sensor Networks, Applied AI/NLP, Cyber Security and Privacy.
- Microsoft Certified Professional with expertise in C#
- **4-years**' experience in s/w engineering, coding, R&D. Experienced in Software Dev Life Cycle

TECHNICAL SKILLS

Languages Python C# SQL PHP R JavaScript HTML CSS Java React + Redux
Tools Web services, Google BigQuery, AWS Cloud, SCRUM

EDUCATION

Master of Science in Computer Science – University of California, Davis, Sept. 2019- 2021 **[Currently]**
GPA: 3.85/4

Bachelor's degree with Honors in Computer Science – National Institute of Technology, India, 2010-14
GPA: 3.75/4

EXPERIENCE

Senior Project Engineer, Indian Institute of Information Technology, **1–year**, Nov 2017 - Jan 2019

- Designed Secure Robust Official University Management Software with a team of 5 staffs
- Agile and Lean method of In-house software development (PHP/MYSQL)
- This project serves **2,000+** students & faculty daily!
- Collaborated and closely worked with professors and students to implement this project.

Chief Technical Officer (Founder), Merferry Technologies, India, **3–years**, Sept 2014 - Sept 2017

- **Patented** one electronic attendance monitoring gadget for logging student attendance
- Designed workforce management system to track employees working hours, lateness, absentism
- Made use of Agile SCRUM software development methods to develop software to finish

RECENT IoT Papers PROJECTS:

First Author of Proceedings of Air Sensors International Conference (ASIC) 2020 *'20***: (Under REVIEW)**
"SmartAIR '20: Community-driven Smart Street-Level Air Quality Monitoring, Mapping System with Automatic Calibration using Ground-based Sensor Networks"
We have practically implemented our street-level Air Quality (AQ) framework in UC Davis. Our results and analysis of our protocol show greater performance. Real-time street-level AQ monitoring is an important Health care application of wireless sensor networks (WSN). Presenting accurate AQ data to users in real-time is still a major challenge and actively under research. we propose secure protocol to mitigate network attacks, automated calibration sampling protocol, introduce new zone based Distributed Hash Table.

First Author of Proceedings of IEEE ICESIP *'19***: (PUBLISHED)**
"SmartAIR: Smart energy efficient framework for large network of air quality monitoring systems"
Live street-level air quality monitoring is important application of sensor networks. Our implementation of novel policies and schemes provide real-life benefits to data centers and end-users. Our end-users experience better, faster and lively pollution updates. Our data centers experience relatively lesser network load and less computation overheads on scaling up.

OTHER INNOVATIVE IoT, Info System PROJECTS:

Educational Info system *(Chairman's Recognition)*

Official University Software [daily used by students, faculties]

Designed and built official University Website and its Internal system in .NET/MSSQL.

159k users/month. ***55*** modules. ***210+*** SQL Tables. ***7,000+*** official records of students, faculty

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ClickerX: Wireless Attendance Gadget *(Best project Award, Nominated)*

Secure fast fingerprint attendance for students. Developed novel multi-dimension tree algorithm to search fingerprints faster in-under 0.3s. Tested Integration with HR-payroll systems, gadget comes with dashboard to track working hours, late and absentism of employees

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DESI: The Indian Reciepe Search engine*(IFCT challenge)*

AI based INDIAN RECIPE search engine. Can Alexa/web search various combinations of recipes (made up of **528** key Indian foods) using NLP techniques.

Remote VR Robot *(Spot Award)*

Virtual Reality based robots racing game for schools located ~372 miles apart

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Underwater Autonomous Robot

*Won **2nd** among **13** countries in* **IEEE Singapore** UAV-'18 robot challenge

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eAGROmet: Agricultural meteorological station *(Dean's Award)*

Designed Multi-model Agro-meteorological station to monitor Algal bloom 24/7