# Vinay Kumar

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## LINKS

Linked In( **https://www.linkedin.com/in/vinay-kumar-4855231ba/** )
Github( https://github.com/vinay-eng )

## PROFILE

- Strong in design and integration problem solving Skills. Expert in Javascript, Node js, React js with databases analysis and design. Skilled in implementing business plans, requirements and specifications, user documentation, and architectural systems research. Strong written and verbal communication.
- With 4+ years software development experience, I am able to understand any system quickly. Strong analytical skills. Can manage and work with the team.

## WORK HISTORY

Aug, 2020 - Aug 2022 **Software Developer, Jan Elaaj**

- Developed and implemented business logic and software solutions.
- Designed and maintained REST APIs, databases, and server infrastructure.
- Created and maintained documentation and low-level architecture.
- Performed testing of Android applications across multiple OS versions.

Aug 2022 – Present **Co-Founder Jan Elaaj Wellness Pvt. Ltd.**

- Leading product architecture and software development initiatives.
- Overseeing end-to-end technical design, deployment, and maintenance.
- PCB Integration, Firmware Integration, Assembly and Casing Design Integration
- Managing the development team and coordinating with business units.
- Driving innovation in digital health solutions for improved user experience.

## EDUCATION

| | |
|---|---|
| Aug, 2016 - Jul, 2020 | B-Tech, Delhi College of Engineering (DCE) (6.8 CGPA) |
| Jul, 2014 - Jul, 2015 | 12th, Navyug School (79 %) |
| Jul, 2013 - Jul, 2021 | 10th, Jain Happy School (9 CGPA) |

## SKILLS

| | |
|---|---|
| Javascript | Linux |
| Node Js | HTML & CSS |
| SQL | GIT |
| React Js | IOT |
| Redux | C++ |
| Python | React-native |
| Matlab | Signal Processing |

## PROJECTS

### Project 1: Non-Invasive Health Monitoring IoT Device

*Aug 2022 – Present*

**Description:**

Developing an IoT-based medical device capable of measuring **heart rate, oxygen saturation ($SpO_2$), ECG, hemoglobin, blood pressure, blood sugar, and breathing rate** using **non-invasive technology**. The device streams **real-time ECG data** to a web application for live monitoring and analysis.

**Key Responsibilities:**

- Collected and analyzed physiological signal data for algorithm development and validation.
- Designed, tested, and optimized **signal processing and machine learning algorithms** to improve measurement accuracy.
- Integrated hardware sensor outputs with backend systems for real-time data visualization.
- Conducted performance benchmarking and calibration for non-invasive sensing modules.

### Project Lead (Activities)

**PCB Fabrication (Design)**

Reference Design, Simulation (Breadboarding) ,Component Assembly and Test Point. This involved detailed discussions with subject matter experts, consultants over a period of a few months. Almost 12-15 iterations were made to come to a final footprint.

**Firmware Architecture**

Create the Low level design of the functions needed to control the sensors and pass necessary data to the novel algorithms to compute the value of the necessary parameters. This involved discussions with subject matter experts and studying reference designs.

**Casing Design**

Create the form factor for the PCB footprint through multiple iterations. Identify the

components needed to create a winning design, convenient to the end users as well as fitment to the PCB footprint. This required a lot of inputs from experts, from India and abroad to fit the PCB, microcontroller and other components into the casing without compromising on the aesthetics.

**Integration**
Integrate the PCB, Firmware and the casing and conduct the tests needed. This included trouble shooting, redesigning PCBs, revising the form factor of the casing etc while adding multiple test points to unit test the integrated components.

**Trials**
Conduct trials on almost 500 subjects and calibrate the results against gold standard for each parameter. Liaisoned with Hospitals and made the process for the trials.

## Tools & Technologies:

MATLAB, Python, Signal Processing, Machine Learning, IoT, Data Analysis, RDBMS, C, C++,

## Project 2: Unwinnd – All-in-One Mental Health Platform

***Timeline: 2020 – 2022***
**Website:** **https://unwinnd.com**
**Android App:** **Play Store Link**

**Description:**
Unwinnd is a comprehensive mental health platform designed to connect users with professionals and provide AI-driven wellness tools. The platform supports appointments, instant chat, video/voice/text sessions, and AI-based mental health assessment tools for users.

**Key Responsibilities:**

- Designed and implemented the end-to-end system architecture including backend, frontend, and database layers.
- Led solution architecture and database design, ensuring scalability and security.
- Supervised and monitored the mobile application development and integration with backend services.
- Oversaw the entire software development lifecycle (SDLC) from planning to deployment.
- Collaborated with the team to ensure a seamless user experience and platform reliability.

**Technologies Used:**

React.js, Node.js, MySQL, React Native, WebRTC, REST APIs, AWS, AI/ML tools for mental health analysis

## WORK EXPERIENCE

- **Backend Development:** Proficient in **Node.js** with 4+ years of experience in designing, developing, and maintaining scalable backend systems and RESTful APIs.
- **Frontend Development:** Strong expertise in **JavaScript**, **React**, **Redux**, and front-end technologies including **HTML**, **CSS**, and **Bootstrap** for building responsive web interfaces.
- **Database Management:** Experienced with **MySQL** — skilled in schema design, query optimization, and data integration for high-performance applications.
- **Mobile App Development:** Hands-on experience in building and deploying cross-platform applications using **React Native**.
- **Programming Languages:** Good understanding of **Python** for scripting, automation, and backend utilities.
- **Version Control:** Proficient in using **Git** for collaborative development and continuous integration workflows.
- **Professional Strengths:** Passionate about writing clean, efficient code in **JavaScript**, adopting new technologies quickly, and delivering reliable software solutions.

## HOBBIES

Playing Video Games, Reading Fictional Novels

## LANGUAGES

Hindi
English