Naresh Kumar Kaushal

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Education

University of California, Davis (UC Davis) — **Davis, California**
Master of Science in Computer Science **GPA: 3.92/4.0** — Sept 2022 – May 2024

Indian Institute Of Technology Goa (IIT GOA) — **Goa, India**
Bachelor of Technology in Computer Science and Engineering **GPA: 3.87/4.0** — Aug 2017 – May 2021

Technical Skills

Programming Languages: Java, Python, JavaScript, C++, C#
Database and Web Development: React.js, Node.js, MongoDB (NoSQL), Express, HTML5, Cascading Style Sheets (CSS), MySQL, Modal View Controller framework, Spring framework, Postman, REST API's, .NET framework, Maven
Others: Linux, Git, Keras, PyTorch, Tensorflow, Signal processing, Machine learning, JIRA, Jenkins, Software Development

Work Experience

Indian Student Association @ UC Davis Link — **Davis, California**
Software Developer - part time — Nov 2023 – Present
- Co-founded and leading the development of full-stack web application using **React.js, MongoDB and Node.js** aimed at enhancing academic and social experience of Indian student community at UC Davis.
- Implemented features like housing/roommate finder with **dynamic matching algorithm**; and currently working on event calendar and tailored recommendations.
- Designed and implemented secure, efficient **RESTful APIs** with **Node.js** and **Express**, optimizing data retrieval through **hybrid pagination**, ensuring minimal response times even with large datasets.

WOAS Technology Pvt. Ltd. (Wooqer) — **Bangalore, India**
Associate Product Engineer — Jun 2021 – Apr 2022
- Spearheaded a scrum team in the development of an interactive gallery, using **Java** and **Spring MVC framework**, resulting in a **45%** increase in user engagement and significantly improved the user interface's responsiveness and interactivity.
- Designed new **RESTful APIs** and optimized existing ones to revamp Wooqer mobile app **(Android and iOS)** resulting in **25%** reduction in critical response times
- Effectively resolved over **100+** product-related issues tracked in JIRA, leading to a significant reduction in customer complaints and contributing to the product's overall stability and reliability.

Planful (Host Analytics) — **Telangana, India**
Software Developer Engineer - 1 Intern — June 2020 – Dec 2020
- Developed a **.NET** console application in **C#** and integrated it with **MySQL** to automate anomaly detection in financial data, enhancing data accuracy and reducing prediction errors in financial planning models by **40%**
- Collaborated with senior developers to debug code using **NUnit framework**, resolving **30+** pending issues on **JIRA** and documented code for future KT sessions

Projects

Silent Speech Interface (SSI) for patients with speech disorder Link — Apr 2023 - Present
- Leading ongoing research as Graduate Student Researcher at Center For Mind And Brain in collaboration with Accenture labs to develop a non-invasive multimodal silent speech interface (SSI) for patients with speech disorders
- Engineered an advanced supervised learning model that synthesizes speech by integrating sEMG and visual cues, employing a novel combination of **CNN-RNN** and **attention-based Seq-to-Seq** architectures, achieving a **35% WER**

Enhancing driver voice assistant software to help reduce road accidents (Omdena AI challenge) Link — Nov 2021 - Jan 2022
- Led pre-processing team to develop a U-Net/Convolutional Autoencoder model to denoise driver's speech for voice assistant software
- Enhanced speech intelligibility by integrating a language model, achieving a **0.33%** word error rate, and feeding the improved output to a RASA-based chatbot

Classification of High Dimensional Low Sample Size data (Btech Capstone Project) Link — Jan 2021 - May 2021
- Developed a supervised deep learning model for classifying High Dimension Low Sample Size (HDLSS) cancer data leveraging mRNA-Seq gene expression profiles.
- Overcame the prevalent issues of high variance and overfitting in HDLSS data through intricate data preprocessing and feature engineering using PCA and boosting, achieving an impressive **90%** accuracy.

Awards and Leadership

- Secured CITRIS funding for the pioneering 'Silent Speech' project at UC Davis, earning recognition for leveraging innovative IT research to address societal challenges.
- Received the prestigious Bronze medal at IIT-GOA for securing the second rank in the CS department.
- Led tutorial sessions and labs as a Teaching Assistant for the 'Introduction to Programming' course at UC Davis, enhancing student understanding and engagement. My approach resulted in improved student performance and positive course evaluations.