Nikhil Kharbanda

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SKILLS

Programming	C/C++, C#, WPF, MVVM, LaTeX, Python, Java, Javascript, HTML5, CSS, ReactJS, SQL/NoSQL, AUTOSAR
Hardware	COBRA55, NXP S32, Vector CAN Hardware
Software	Vector CANoe/CANalyzer, IBM Rational, EBTresos, ETAS INCA/ISOLAR, TRACE32 Lauterbach
Tools	GitHUB, AutoCAD, Synergy, MatLAB & Simulink, NodeJS, npm, REST API's
Miscellaneous	PLC applications, Tele-communications, Satellite communications, VoIP, Agile Methodology, Scrum Master, Root Cause Analysis

EXPERIENCE

Stellantis (Formerly Fiat-Chrysler) — Auburn Hills, MI

Base Software Engineer — **April 2022 - Present**

- Developed and implemented C/C++ features for legacy projects for HWIO testing, LLD integrations, and any other outstanding or one-off testing requests.
- Integrated and modified signal changes on the I/O hardware abstraction layer in C/C++ & AUTOSAR architecture
- Spearheaded the development of OS task cleanup and priority reconfiguration in AUTOSAR architecture to optimize memory allocation and maintain sustainable system operations
- Led the design of innovative tool changes utilizing C# allowing for global auto-generation and testing software

Scrum Master — **February 2024 - Present**

- Interfaced with 3 product owners across multiple teams on an active basis to manage product backlog and sprint activities
- Facilitated sprint planning and reviews, daily standups and refinement/retrospectives within teams
- Facilitated discussion, decision making, and conflict resolution across the 2 teams
- Monitored team progress and performance throughout sprints

CBC (Canadian Broadcasting Corporation) — Toronto, ON

Project Manager/Engineering Intern (3 summer terms) — **May 2017/2018/2019 – August 2017/2018/2019**

- Assisted with various projects encompassing multiple departments
- Responsible for creating concept designs and block diagrams for client reviews
- Built project schedule, budget, and CAD drawing for client approval
- Tracked project progress closely to ensure projects are delivered within schedule and budget

EDUCATION

Bachelor of Computer Systems Engineering **Graduated April 2021**
Carleton University, Ottawa ON, Canada
- A 4-year program focusing on combining hardware and software to design and implement integrated computer systems for applications such as robotics, AI, aerospace, avionics systems, cloud computing.

Introduction to Databases Certificate **Completed July 2021**
University of Waterloo, Waterloo ON, Canada
- A 6-week program focusing on how to plan, organize and manage data, and how to translate that data to readable documents

Advanced PC Security Certificate **Completed August 2021**
University of Waterloo, Waterloo ON, Canada
- A 6-week program focusing on the fundamentals of PC and network security. Learned about the vulnerabilities of operating systems, software, and networks. Developed understanding of exploits used to access computers and firewalls for prevention.

Microsoft AI Fundamentals Certificate **Completed August 2021**
University of Calgary, Calgary ON, Canada
- A 2-week program focusing on concepts related to machine learning and AI using Microsoft Azure services. In this course, gained familiarity with ingesting data, building machine learning (ML) models, and deploying models as REST API services.

Bootcamp Certificate – Full Stack Developer **Completed November 2021**
University of Toronto, Toronto ON, Canada
- A 24-week intensive program focused on gaining technical programming skills in HTML5, CSS3, JavaScript, JQuery, Bootstrap, Firebase, NodeJs, MySQL, MongoDB, Express, Handelbars.js & ReactJS.

PROJECTS

MirrAI – Computer Systems Engineering Capstone Project
- Built Smart Mirror using Raspberry Pi Embedded System and Machine Learning algorithm that can propose dress suggestions based on weather reports and what the user is currently wearing.
- Assisted with machine learning algorithm development using Python and Google Collab. Designed the User Interface utilizing Javascript and Python
- Responsible for applying for university funds and maintaining expenses within budget of $2000
- **System Workflow:**
    - The camera scans and detects the outfit, uses Python scripts to find similar images from Training Data
    - Uses Bing API to search the internet for images of similar outfits, returns 4 top results and stores in a temporary storage
    - JavaScript based UI scans the temporary storage and displays the results, one at a time as a slideshow preview
    - Users can hit the Refresh button to get additional suggestions from the internet

Autonomous Driving & Recharging System
- Upgraded an older Roomba with autonomous driving, including self-drive feature to an automated charging station
- Attached ultrasonic / photoelectric sensors to Roomba
- Programmed an Arduino for Roomba to sense and navigate around obstacles
- Programmed second Arduino and a servo motor as part of charging station
- Mechanical servo powered arm would lower and re-charge the on-board battery, once Roomba's presence confirmed within proximity of charging station

HOBBIES

- Enjoy various team sports such as volleyball, badminton, ultimate frisbee and pickleball.
- Passionate about yoga during the day

References Available Upon Request