SAMARTH HALYAL

2550 College Pl. #205
Fullerton, CA 92831
(657) 556 5984

samarthhalyal@csu.fullerton.edu

linkedin.com/in/samarth-halyal
github.com/SamarthHalyal

EDUCATION

California State University - Fullerton, CA   *Expected May 2024*
    Engineering & Computer Science – *Master of Science in Computer Science 11.0701*
    GPA: **4.00/4.00**
    Concentrations: Computer Science; minor in Artificial Intelligence and Machine Learning
    Honors: Hall of Fame (2023; Spring 2024); IEEE CoDIT Co-author (Spring 2024)
    Relevant Coursework: Adv. Artificial Neural Networks; Adv. Algorithms; Adv. Computer Graphics (C++); System Architecture; Mobile Development; Professional Ethics in Software Engineering

Visvesvaraya Technological University – Belgaum, India   *August 2015 - July 2019*
    GPA: **8.25/10**   (B.E. in Computer Science and Engineering; **TOEFL: 92/120; Speaking: 27/30; Writing: 25/30**)
    Distinctions: All India Magazine Ambassador (2017-2018); Google IO Student Ambassador (2018)

PROFESSIONAL EXPERIENCE

California State University – *Research Assistant; IT Salesforce Admin;* Fullerton, CA   *October 2022 - Present*
- Researched and Analyzed 2 Viral diseases West Nile and Lassa Fever under Dr. Sampson Akwafuo; Worked with ML, Deep Learning and Mathematical models for epidemic predictions, published a paper at IEEE CoDIT
- Led projects involving Customer Relationship Management using C# .Net, SQL, and Salesforce Marketing Cloud

Mistral Solutions – *Consultant; Software Design Engineer; Intern;* India   *January 2019 – March 2022*
- Successfully handled a team with 6 members developing and delivering a system-critical sensor-integrated project involving GPIO, DMA, UART, and SPI for avionics, implementing firmware in Embedded C/C++ software for VxWorks, and Linux involving Schedulers, Multi-threading, Interrupts, Mutexes, and Semaphores
- Aided in 2 TCP/IP Networking and Wireless GPS Antenna programs reading precise timings from satellites
- Increased embedded growth by 12% by design and on-time delivery of 4 critical UAV projects which involved drivers for VxWorks and Linux-based firmware built on C/C++, Shell interactive UI written in QT Creator (C++)
- Designed and successfully integrated Custom Bootloader on Bare-Metal PIC32 microcontroller to aid partition-based booting to handle Test Rig and Main code bootup based on status registers
- Designed, Developed, Tested, and Maintained Bare-Metal Microchip-based drivers for SRAM & NVRAM involving memory reliability (RAS) and efficiency. Developed DDR technologies like SPD, DDR4, and PMIC

iO Genesys, Inc – *Software Test Engineer;* Oakland, CA   *August 2017 – November 2018*
- Managed a team of three in the development of an object detection application leveraging deep learning and computer vision using C++ and Python Tensorflow deployed on Raspberry Pi3
- Worked on ReactJS and Node to build an application to handle sync data between two external applications

SKILLS/INTERESTS

- Proficient with Embedded: RS232, I2C, SPI, UART, TCP/UDP, IPv6, CAN, ARM, RTOS, Bare-metal, SoC
- Skilled in programming embedded C/C++, C++20, MATLAB, Python, Bash, Shell, Go-Lang, SQL (MySQL), Angular, Node, JavaScript, PERL, Java, Linux Kernel Development, Objected Oriented Programming, ML/DL (*python*)
- Expertise Knowledge in JTAG Debugger, GDB, Docker, QT Creator, PIC32 Microcontrollers, Wireshark, Git, Jira, Confluence
- Interests: Artificial Neural Networks, Machine Learning, Computer Vision, Database Systems, Networking, Encryption
- Embedded operating system experience: VxWorks, RT Linux

PROFESSIONAL PROJECTS

Correlative Interferometry (UAV) – *Software Design Engineer, Mistral Solutions*   *June 2020 – December 2021*
Created 2 firmware on VxWorks for Interferometry technique designed on Vertix-9 FPGA and signal processing on VxWorks processors; Followed ISO26262 through Agile Scrum; Worked closely with hardware engineers for debugging and board bring-up

Electronic Control Unit – *Software Design Engineer, Mistral Solutions*   *August 2019 – June 2020*
Aided in 12% organization growth while managing a 4-member cross-functional team via Agile Scrum to develop QT UI and firmware in C for low-power PIC32 microcontrollers involving PCIe, NVM, I2C, QSPI, custom bootloader to handle the condition monitoring ALCS systems for avionics utilizing ISO24355; Closely worked with hardware engineers for reviewing PCB design and JTAG debug