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Irfan Suzali

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EDUCATION

University of Illinois Urbana-Champaign **May 2020**
Bachelor of Science in Electrical Engineering **GPA: 3.16/4.00**
Relevant Coursework: Digital Systems Laboratory, Data Structures, Digital & Analog Signal Processing, Sensors and Instrumentation, Introduction to Robotics, Control Systems, Electronic Circuits, Applied Linear Algebra

EMPLOYMENT

InstaHub **Philadelphia, PA**
Software Engineering Intern **September 2020 – December 2020**

- Developing a web-based datalogger dashboard application to provide data collection and fleet management information of sensor network in an agile development environment
- Partnering with business stakeholders and clients to understand, design, and develop valuable insights
- Cross-team collaboration between business and engineering/data science teams to translate technical requirements to produce effective and efficient solutions

Illini Union Hotel **Champaign, IL**
Data Analyst **August 2017 - May 2019**

- Executed SQL queries to assess and analyze large customer datasets to aid in marketing and sales proposals boosting total revenue by 15% for the fiscal year 2019
- Conducted data quality assessment to identify incorrect data entries and implement corrective measures to ensure viable metrics aimed towards enhancing customer outreach
- Lead student supervisor tasked with training new hires to manage hotel operations and uphold company standards

PROJECTS

Assistive Eyewear for Senior Design (Raspberry Pi, PIC32, OpenCV, S.A.M.)

- Designed PCB for a low-cost wearable device to assist the visually impaired in reading text in the physical world
- Computer vision implemented using OpenCV libraries to detect text within an image with a word accuracy of above 90% on clear, unobstructed text
- Software Automatic Mouth (S.A.M.) program to convert text-to-speech for audio output

Anti-theft Package Security System (Raspberry Pi, PIC32, OpenCV)

- Computer vision-based security system to provide real-time tracking and monitoring of packages upon delivery
- OpenCV implementation of object tracking and facial recognition for user access with over 80% true positive recognition rate

Sensor Network for Sensors and Instrumentation (Xilinx Artix-7 FPGA)

- Interfacing various sensors (temperature sensor, CMOS imaging sensor) on a custom board via Xilinx Artix-7 FPGA using SPI and I2C data communication protocols to collect and transmit data with a 32 Mbps transfer speed
- Data transfer to PC via Front Panel software and post data processing done in Python
- Sensor characterization through a thorough analysis of the sensor's temporal noise, conversion gain, and signal-to-noise ratio

Arcade Tetris for Digital Systems Laboratory (Altera DE2-115 Dev. Board)

- Designed a finite state machine in SystemVerilog to implement the classic arcade game, Tetris, on an Altera DE2-115 Development Board utilizing a 32-bit embedded-processor (NIOS II/e) to implement software capabilities such as handling scorekeeping and user peripheral interface
- Utilized USB keyboard using Python to control and manipulate blocks displayed on a VGA display

LANGUAGES AND TECHNOLOGIES

Software/Programming Languages: MATLAB (Advanced), Python (Advanced), SystemVerilog (Intermediate), HTML (Intermediate), CSS (Intermediate), SQL (Intermediate),
Development Environment: Quartus (Intermediate), Eclipse (Intermediate), Synopsys (Intermediate), Xilinx Vivado (Intermediate), KiCad EDA (Beginner), ModelSim (Beginner), Jupyter Notebook (Beginner)
Platform: Arduino Uno, Altera DE2-115 FPGA, Opal Kelly XEM 7310 on Xilinx Artix-7 FPGA