Zafar Hassan

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Education

Bachelor of Science in Computer Engineering	May 2025
Purdue University	GPA 3.82

Objective

Computer engineering senior at Purdue University planning to continue with a 1-year masters degree, seeking a summer internship. Exceptional problem-solving, critical thinking, and communication skills.

Projects and Courses

Shortest-Path Finding Algorithm
- Developed a C program to find the shortest path to cross a river with movable bridges.
- Utilized various data structures and algorithms to represent the river's configuration and navigate a solution.
- Optimized code using Dijkstra's algorithm to minimize time and space complexity.

AI Image Detection
- Trained Python script to detect numbers on images using Machine Learning.
- Strengthened understanding of statistical Python libraries to implement algorithm.
- Approached project using three distinct probabilistic and statistical methods to achieve 95% accuracy over thousands of images.

Command Line Interface
- Built a command line interface with an STM32 microcontroller.
- Configured USART5 for serial communication, handling both transmission and reception of data using interrupts and DMA to prevent data loss and improve efficiency.
- Enhanced user interface by integrating line editing features and backspace support, creating a responsive command-line interface.

Courses:
- Artificial Intelligence (ECE 570).
- Compiler and Translator Writing Systems (ECE 573).
- Data Structures and Algorithms (ECE 368).
- Object Oriented Programming (ECE 39595).

Skills

Programming Languages: System Verilog, Verilog, Python, C, C++, MATLAB, Java, HTML, LaTeX
Technical Skills: Excel, WaveForms, LTSpice, Visual Studio, GTKWave, GitHub, Linux, Oscilloscope/Lab Equipment, OOP, Machine Learning, Circuit Design
Language Proficiencies: English (Fluent), Urdu (Fluent), Hindi (Fluent), Arabic (Fluent), French (Basic)

Extracurriculars

Member of Muslim Student Association; Organize events and help with activities
Volunteer at Food Finders: Volunteered, organized food supply, and helped the less fortunate while managing a team for more impactful work.