Mian Saad karim
Intern @NASTP | Student @PIEAS | Exploring swarm UAVs

Experience

Intern
National Aerospace Science & Technology Park (NASTP) · Internship
Jul 2025 - Present · 1 mo
Islāmābād, Pakistan · On-site

Work on simulations of Robots and drones in sandbox environments.

Skills: Information Technology Infrastructure · Aerospace · Drones

Gmail - NASTP Internships.pdf

IT Manager
PIEAS SPORTICS SOCIETY · Apprenticeship
Jul 2024 - Present · 1 yr 1 mo
Islāmābād, Pakistan

As IT Manager for PIEAS Sportics Society, I built our website and manage all our social media channels—keeping our community connected and engaged! 💻🚀

Skills: Management · Cascading Style Sheets (CSS) · Infrastructure Management · Bootstrap (Framework) · GitHub

Internee at PAC kamra
Pakistan Aeronautical Complex Kamra · Internship
Jul 2024 - Jul 2024 · 1 mo
Pakistan kamra · On-site

I had an amazing internship at Pakistan Aeronautical Complex (PAC) Kamra, where I gained hands-on experience in avionics production and testing. Highlights included working with RF testers and visiting the Aircraft Manufacturing Factory. Grateful for the invaluable learning and support from the PAC Kamra team! 🌟

#Internship #AerospaceEngineering #PACKamra

Skills: Program Management · C (Programming Language) · Engineering

JF-17-2-600x305.png

selected internee list

internship certificate

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Education

Pakistan Institute of Engineering & Applied Sciences (PIEAS)
Bachelor of Science - BS, Electrical and Electronics Engineering
Sep 2022 - Mar 2026

Skills: Electrical Engineering

Islamia College Peshawar (Chartered University)
High School Diploma, Computer Engineering
Sep 2020 - May 2022
Grade: 91%

Skills: Engineering · Project Management

The Peace Schools and Colleges
Matriculation, Computer Science
Apr 2018 - Aug 2020
Grade: 93%

Skills: C (Programming Language)

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Projects

QR-Based Attendance Management System
Dec 2024 - Present

A streamlined and secure web-based attendance tracking system utilizing QR codes for efficient session management. Live at saadkarim754.pythonanywhere.com.

Skills: web · Python (Programming Language)

GitHub - saadkarim754/QR-ATTENDANCE-SYSTEM: A QR-based attendance management system built with Flask,...

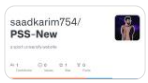
Other contributors

PIEAS sportics web
Jul 2024 - Present

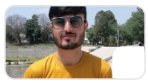
Associated with PIEAS SPORTICS SOCIETY

Thrilled to share a milestone from my #CS50 journey!
I've developed a comprehensive web application for the PIEAS SPORTICS SOCIETY as my final project. This project provided hands-on experience with #Flask, #SQL, and #webdevelopment.
*Key Features:**
- User Authentication and Authorization
- Event Creation and Management
- Admin Management with Restricted Access
- Dynamic Flash Messaging
- Responsive Design
- CSV Download for Event Registrations
Thanks to #CS50 for the incredible learning platform. Excited to explore more in #webdevelopment and #softwareengineering!
#Programming #Python #Flask #StudentProjects

Skills: HTML · Bootstrap (Framework) · GitHub · Front-End Development · C (Programming Language) · Python (Programming Language) · Cascading Style Sheets (CSS) · SQL · Management · Git



GitHub - saadkarim754/PSS-New: a sport university website



PIEAS SPORTICS SOCIETY

eventpage-01.jpeg

Show all 4 media

Design and Modeling of 6 DOF Robot
Apr 2025 - May 2025

Associated with Pakistan Institute of Engineering & Applied Sciences (PIEAS)

This project details the design, modeling, and simulation of a six-degree-of-freedom
(6 DOF) robotic arm specifically tailored for automated welding applications.

Ad-
dressing the inherent challenges of manual welding, such as inconsistency, safety
hazards, and scalability limitations, this work proposes a flexible and highly accu-
rate robotic solution. The methodology integrates a modular mechanical component
design via onshape/solidworks, and URDF modeling for multi-
platform compatibility. Comprehensive kinematic and workspace analyses were con-
ducted using MATLAB, complemented by initial trajectory planning and control
implementation within the CoppeliaSim environment. This holistic study demon-
strates the robot's capability for precise and repeatable welding operations, laying a
foundational framework for cost-effective and autonomous fabrication systems, en-
hancing both safety and efficiency.

Skills: Onshape · SOLIDWORKS · coppliea sim

GitHub - saadkarim754/Onshape_To_robot: Design of 6DOF Robot

project_report

Other contributors

News classification using gradient boosting.

Oct 2024 - Nov 2024

Developed a machine learning model to classify news articles as fake or true. The project involved pre-processing large text datasets, cleaning and tokenizing the text, and transforming it into numerical features using a Bag-of-Words approach. A Gradient Boosting classifier was then trained on the data for effective classification. The project was implemented in both Python (Google Colab) and MATLAB, with the model exported for future use in real-world applications.
you can see at [https://github.com/saadkarim754/Fake_News_classification]

Skills: Machine Learning · Python (Programming Language)

GitHub - saadkarim754/Fake_News_classification

Other contributors

Biometric Access Control System with IoT Integration

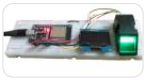
Oct 2024 - Oct 2024

This project involves the design and implementation of a secure access system using an AS608 fingerprint sensor and two ESP32 microcontrollers. The system authenticates users through biometric fingerprint recognition and controls access via a servo motor, which simulates a gate. Successful authentication events are logged and monitored on Adafruit IO, an IoT platform.

The primary goals are to develop a reliable and user-friendly biometric authentication mechanism, enable IoT-based real-time activity logging, and ensure modularity by distributing tasks across multiple microcontrollers. The project showcases a practical application of biometric and IoT technologies in enhancing security systems for restricted areas.

Skills: Electrical Engineering

GitHub - saadkarim754/Smart-Biometric-Access-System-with-IoT-Integration-: A set of files to implement a secur...



circuit picture

Other contributors

Betting on Random Events!

In Betting on Random Events, I challenge a computer in Rock-Paper-Scissors, placing bets on each round. I can switch between equal, weighted, and strategy-based probability modes, making it both fun and insightful.

Skills: MATLAB

Designing a Betting System App Demo

Desmos

🚀 Exploring Creativity with Desmos! 🤔
I've recently been working on some small projects using Desmos, and it's been an incredible way to blend math and art! 📐✨ From visualizing complex functions to creating geometric patterns, this tool has really expanded my creative horizons. 💡

Check out what I've been up to – excited to keep pushing the boundaries of what's possible with math! 🔍💻

#Desmos #MathArt #Creativity #LearningJourney #STEM

Skills: Desmos · Mathematics · Mathematical Programming

doll.jpg

phasor.jpg
phasor diagram

FPGA-Based Dual-Axis Servo Control with UART + GUI Interface

Associated with Pakistan Institute of Engineering & Applied Sciences (PIEAS)

Built a real-time servo control system using Verilog on a Spartan-3E FPGA, capable of both single-axis (button-based) and dual-axis (UART-based) control. Developed a Python GUI using Tkinter to send smooth PWM commands over UART. The project features precise servo movement, UART interfacing, and clean pin-mapped HDL modules — ideal for robotics or embedded control systems.

Tech Used: Verilog, Spartan-3E FPGA, Python (Tkinter + PySerial), UART, PWM

Skills: Field-Programmable Gate Arrays (FPGA) · python

GitHub - saadkarim754/FPGA_servo_control

Other contributors

Simulation of Single Phase Square Wave and SPWM Inverters

Associated with Pakistan Institute of Engineering & Applied Sciences (PIEAS)

The goal is to find an optimal operating point for an SPWM Inverter (Full Bridge) in terms of its THD. The experiment discusses the design considerations for such inverters, You can find the simulation files in the GitHub repo below. https://github.com/saadkarim754/Full_Bridge_spwm_INVERTER

Skills: Electronics · Power Electronics

(PDF) Simulation of Single Phase Square Wave and SPWM Inverters

Other contributors

VGA Graphics and Game Design on Spartan-3E FPGA

Associated with Pakistan Institute of Engineering & Applied Sciences (PIEAS)

🛩️ Project Highlight: Airplane Game on FPGA with VGA Output (Verilog)
I recently completed a hardware-level project implementing a minimalist airplane game using Verilog on a Spartan-3E FPGA board. The main objective was to generate a real-time VGA signal (640×480 resolution) and create an interactive visual experience entirely through register-transfer level (RTL) design.

🔧 Key Features:
• VGA Signal Generation – Accurate Hsync and Vsync pulse generation for VGA timing compliance.
• Pixel-Based RGB Output – Pixel positions determine RGB values for rendering dynamic scenes.
• Interactive Triangular Plane – A triangle-shaped "plane" moves horizontally based on slide switch inputs.
• Animated Scenery – Real-time drawing of parabolic mountains and scrolling clouds using logic equations.
• Clock Division – 50 MHz system clock divided down to 25 MHz for correct VGA pixel timing.
• Modular Verilog Design – Clean separation of modules: Sync Generator, Horizontal & Vertical Counters, Pixel Logic, Top-Level Integrator.

🛠️ Tools & Technologies:
Verilog HDL, Spartan-3E FPGA Board, Xilinx ISE Design Suite, ModelSim (for simulation and verification), VGA Monitor.

🎯 Project Outcome:
This was a pure HDL project—no CPU, no external libraries, no software rendering. All visuals were generated through timing-based logic using Verilog, making it a great demonstration of foundational digital design in action.

Skills: Verilog · Xilinx ISE

GitHub - saadkarim754/VGA_on_spartan3E_starter_kit

Other contributors

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Licenses & certifications

Introduction to Parametric Feature-Based CAD
Onshape by PTC
Issued Jan 2025
Credential ID woe5

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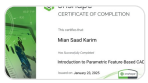

mian-saad-karim-ca67d1ac-6b8f-461d-92d1-30564f248267-certificate.pdf

Rocket Science for Everyone
Yale University
Issued Jan 2025
Credential ID 8F4JRT5P8Y3X

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ISYWSC'24 Runner ups Electro masters
IEEE
Issued Dec 2024

Skills: Project Management · Electrical Equipment · Electrical Engineering · Electronics

isywc certificate .jpg

Head outreach sports week
PIEAS SPORTICS SOCIETY
Issued Nov 2024

Skills: Project Management · Logistics Management

sports week outreach .jpg

Career Essentials in GitHub Professional Certificate
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Issued Sep 2024

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Practical GitHub Project Management and Collaboration
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Deep Learning: Getting Started
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Skills: Deep Learning · Machine Learning

deep learning.jfif

Electrical Systems: Panel Boards, Frequency Drives, and Transformers
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Skills: Electrical Equipment

Introduction to Deep Learning with OpenCV
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Skills: OpenCV

Introduction to Large Language Models
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Skills: Large Language Models (LLM)

Learning FPGA Development
LinkedIn
Issued Aug 2024

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Skills: Field-Programmable Gate Arrays (FPGA)

CS50x
CS50
Issued Jul 2024
Credential ID 8e67c1ab-0ece-4886-8772-313cfe40c8b7

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Skills: C (Programming Language) · Bootstrap (Framework) · Python (Programming Language) · Front-End Development · Git · GitHub · SQL · Cascading Style Sheets (CSS)

CS50x-01.jpeg
cs50 certificate

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