



CONTACT

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SKILLS

CAD/CAE Software

SolidWorks (Part, Assembly, Drawing, Flow Simulation)

Ansys (Fluent, Static Structural)

AutoCAD

FreeCAD (basic)

Programming

Python (OpenCV, Pygame)

C Programming

MATLAB

Web Development

HTML, CSS, JavaScript

Firebase (Realtime DB)

Other Tools

MS Excel

MS PowerPoint

Canva

AWARDS & ACHIEVEMENTS

2nd Place

BME CAD Contest, BUET

General Board Scholarship

SSC Examination, 2018

General Board Scholarship

JSC Examination, 2015

LANGUAGES

Bengali (Native)

English (Fluent)

Arafat Hossain

MECHANICAL ENGINEERING STUDENT

SUMMARY

Mechanical Engineering student at BUET, skilled in SolidWorks, Ansys, and Python for design automation. Passionate about automation, robotics, and applying engineering solutions to real world problems.

PROJECTS

Robotic Chess Arm (Chess Bot)

Developed a robotic arm that can play a physical game of chess against a human opponent. The project integrates computer vision to detect board state, a chess engine for move calculation, and a microcontroller for arm movement.

Technologies: Python, OpenCV, Stockfish Chess Engine, Arduino Uno, Servo Motors.

[Short Demo Video](#) | [Full Gameplay](#)

Design Automation using Python & SolidWorks/Ansys

Created scripts to automate the design process of various mechanical parts. The programs automatically generate 3D models in SolidWorks based on user-defined parameters.

Automated Parts: Nozzle, Pump Impeller, Screw Conveyor, Piston.

GitHub Demos: [Nozzle](#) | [Pump Impeller](#) | [Screw Conveyor](#) | [Piston](#)

Game Development

Developed several 2D games using Pygame (Python) and web technologies (HTML, CSS, JS). Integrated Firebase Realtime Database to implement global leaderboards in web games.

Games on GitHub: Play demos – [Hunting-Mission](#) | [DibbaHunt](#) | [DuckHunt](#) | [Rapid-Roll](#) | [Aerial-Fury](#) | [BamBoo-Blitz](#) | [River-Rush](#) | [Sky-Kick](#) | [TicTacToe-Multiplayer](#)

Auto Play Dinosaur Game with Python and OpenCV

Built a bot using Python and OpenCV that automatically plays the Google Chrome dinosaur game. The program captures screen data, detects upcoming obstacles (cacti), and sends automated key-presses to jump.

[View on GitHub](#) | [Demo Video](#)

EXPERIENCE

Intern

Berger Paints Bangladesh Ltd. | 11-Day Industrial Attachment

Gained practical exposure to industrial manufacturing processes, plant operations, and safety protocols in a leading paint manufacturing company.

Private Tutor

HSC Physics & Mathematics | 2021 – Present (3+ years)

Tutoring Higher Secondary level students, helping them build a strong conceptual understanding of Physics and Mathematics and prepare for university admission tests.

EDUCATION

B.Sc. in Mechanical Engineering

Bangladesh University of Engineering and Technology (BUET)

2021 – Present

Higher Secondary Certificate (HSC)

Notre Dame College, Dhaka

Batch of 2020

Secondary School Certificate (SSC)

Akkelpur Govt. F. U. Pilot High School

Batch of 2018

CERTIFICATIONS

The Arduino Platform and C Programming

– Coursera

Verify 

Search Engine Optimization (SEO) with Squarespace

– Coursera

Verify 

Google Ads for Beginners

– Coursera

Verify 

SolidWorks CAD Design Associate (CSWA)

– SolidWorks

Verify 

General Information Security Awareness Course

– UNICEF

Verify 

Introduction to Programming with MATLAB

– Coursera

Verify 

MATLAB Onramp

– MathWorks

Verify 

Solving Ordinary Differential Equations with MATLAB

– MathWorks

Verify 

Image Processing Onramp

– MathWorks

Verify 

Signal Processing Onramp

– MathWorks

Verify 