Nafim Ershad Inan

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ACADEMICS

Military Institute of Science and Technology, Mirpur, Dhaka   **Jan 2025**
B.Sc in Aeronautical Engineering (Avionics)   *3.63/4.00 GPA*

- Achieved a rank in the top 30% of students in Avionics.-
- Appointed as the class representative for the Senior Year.
- Final Year, Spring Semester - 3.85/4.00
  Final Year, Fall Semester - 3.77/4.00

Rajuk Uttara Model College, Uttara, Dhaka   **Jul 2019**
Higher School Certificate (Science)   *5.00/5.00 GPA*

Rajuk Uttara Model College, Uttara, Dhaka   **Feb 2017**
Secondary School Certificate (Science)   *5.00/5.00 GPA*

TEST SCORES

- **International English Language Testing System (IELTS)** – Score - 7.5 (S: 7.5, L: 8.0, R: 8.5, W: 6.5)
- **Graduate Record Exam (GRE)** – Score - 305 (Q: 156, V: 149)

SUBMITTED MANUSCRIPTS

Development of a Flight Simulator Using FlightGear for Enhancing Practical Learning in Aviation Education   **Mar 2025**

Attaja Aziz; Nafim Ershad Inan; Maria Zaman; Fl. Lt. Syeda Tasnova Tawfique; Gp Capt A N Somanna

- Designed and constructed a modular flight simulator using FlightGear, integrating a custom wooden cockpit with joystick, throttle, and rudder pedals for realistic flight control.
- Configured **JSBSim** (detailed aerodynamics) and **YASim** (simplified dynamics) models via **XML** to simulate aircraft behavior, weather, and autopilot systems.
- Developed JavaScript-based Multi-Function Displays (MFDs) and utilized FlightGear's *Property Tree* for real-time adjustments to flight parameters, instrumentation, and environmental conditions.
- Tested hardware responsiveness and calibrated input devices to ensure seamless interaction across diverse aircraft models (general aviation to military jets).
- Enabled immersive group training through multi-monitor and projector setups, enhancing practical education in flight mechanics and aerodynamics.
- Proposed future integration of dynamic flight path routing, customizable aerodynamics (lift, drag), and advanced HUD/MFD interfaces for expanded training capabilities.

Key tools: FlightGear, JSBSim, YASim, XML, JavaScript.

Outcome: A cost-effective, immersive simulator bridging theoretical aviation concepts with hands-on piloting experience.

Work Experience

Ollyo   May 2025 – Present
Junior Software Engineer @ Droip   *Full-time*

- **Identified** bugs and fixes for the droip page builder.
- **Developed** templates for the droip page builder.

Astra Airways Ltd.   Sep 2024
Technical Executive, Quality Assurance   *Full-time*

- **Inspected** an **ATR72-212** aircraft before scheduled flights.
- **Researched** aircraft compliance regulations set by the aviation authority of the country.
- **Documented** faults found during aircraft inspection.

Tutor   Mar 2023 – Sep 2023
                                                                                                          Part-time

- **Tutored** a high-school student and helped her get into a **reputable university**
- **Tutored** a high-school student and helped him do good in the **board exam**
- **Tutored** a middle-school student and helped him become the top of his class

Biman Bangladesh Airlines Ltd.   Jan 2023 – Feb 2023
Trainee Engineer Intern   *Part-time*

- **Gained knowledge** on the industry standards and how the industry operates
- **Had hands on experience** on the NDT process of aircraft structure
- **Gained experience** in reading and understanding the aircraft documentation such as **AMM, ANO, CAR** etc.

Research Interests

- Control Systems
- RF Circuits
- Space Technology
- Spacecraft Structure
- Guidance and Navigation
- Microwave Communications and Navigation
- Radio Communications
- Embedded Systems
- RADAR and LiDAR
- Autonomous Systems

Technical Skills

- **3D Softwares**: SolidWorks, Blender
- **Circuit Design**: KiCAD, TinkerCAD
- **Languages**: Python, C++, JavaScript, TypeScript, Rust, MATLAB
- **Office Programs**: MS Word, MS Excel, MS PowerPoint
- **Google Suite**: Google Docs, Google Sheets, Google Slides
- **Back-end**: Node.js, Express.js
- **Front-end**: HTML, CSS, SASS, ReactJs, NextJs, VueJs
- **Clouds & Databases**: PostgreSQL, MongoDB, SupaBase, Firebase, Vercel
- **Web Technologies**: Socket.IO
- **Developer Tools**: MATLAB, Postman, VS Code, GitHub, Docker
- **Adobe Suite**: Adobe Photoshop, Adobe Illustrator

Relevant Courses

• Microwave Engineering • Electro-Magnetic Theory • Communication Engineering • RADAR Engineering • Signals and Systems • Digital Signal Processing • Digital Systems • Computer Programming and Applications • Electronics I & II • Electro-Mechanical Systems • Electrical Circuit Analysis I & II • Aircraft Avionics System • Aircraft Communication and Navigation

Academic Projects

Thesis Project: Design and Development of MFD for Fighter Aircraft   <u>**Source Code**</u>
- It is a project based on the parameters output by the **Flight Gear** flight simulator
- The project was developed using **JavaScript, HTML and CSS**
- **Node.js** was used to retrieve data from the simulator
- This project is a monitoring system for a UAV that was being developed

Lab Project: Design and Demonstration of a Bluetooth Speaker on Communication Engineering Lab
- It is a project based on the **Bluetooth** technology to send audio data
- A HM-10 BT module for Arduino was used
- Arduino was used to edit the code inside the module to receive audio data rom phone
- Sub-woofer from an old speaker was used a output

Personal Projects

- A Simple Drawing App   –   Live   –   Source
- Weather App   –   Live   –   Source
- A Simple Pong Game   –   Live   –   Source

Extracurricular Activities

Design.Build.Fly, 2024 (DBF)   April 2024
Participation
- **Designed** circuit schematic in **EasyEDA**
- **Implemented** the designed circuit on a **UAV**

MIST Aeronautics and Astronautics Club   Mar 20203 – Mar 2024
Treasurer
- Made and managed spreadsheets of club expenses and resource utilization
- **Contributed** in the designing and development of projects on **UAVs**

MIST Aeronautics and Astronautics Club   Jun 2022 – Mar 2023
Technical Executive
- **Designed** banners for different events
- **Worked** on **obstacle avoidance drone**
- **Organized** successful events on **Arduino**
- **Taught** the use of Arduino and Python programming to members

MIST Robotics Club   May 2022 – Mar 2023
Design Executive
- **Organized successful** events on robotics
- **Designed** and **Developed** line following robot
- **Designed** banners, presentation and flyers for the club to attract members

Inter Highschool Basketball Competition   Feb 2018
Champion

Soft Skills

Languages: English (Professional), Bengali (Native), German (Beginner)
Team Skills: Communication, Team work
Individual Skills: Quick Learner, Problem solver, Creative, Positive Attitude

References

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