Intiser Kabir
Design and Analysis Electrical Engineer
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Professional Summary

Results-driven Design and Analysis Engineer with proven success in safety-critical system verification, automation, and compliance for aerospace and embedded systems. Adept at leveraging Python, MATLAB, and OpenCV to optimize processes, reduce risk, and enhance safety compliance. Actively expanding expertise in data analytics, machine learning, and photonics research. Excels in cross-functional collaboration and delivering impactful engineering solutions.

Key Achievements

- **Automation & Efficiency:**
  - Reduced review time by 30% for 3,000+ requirement validations using MATLAB automation.
  - Automated requirement traceability, achieving 100% coverage for safety-critical systems.
- **Risk & Safety Compliance:**
  - Led 55+ Functional Hazard Assessments (FHA) for ARP4754A compliance and risk mitigation.
  - Authored Preliminary System Safety Assessments (PSSA) for Boeing 737-10 MAX modifications.
- **Verification & Testing:**
  - Directed 13% of testing activities, securing first-round approval for two Detailed Test Procedures (DTPs).
  - Developed logic diagrams in Visual Studio for Specification Control Documents.
- **Fault Analysis & System Validation:**
  - Conducted Fault Tree Analysis (FTA), validating safety margins for Minor, Major, and Catastrophic functions.

Core Competencies

Programming Languages: MATLAB, Python, VBA, PSIM, C++, C#, Java
Embedded Systems Development: Arduino Uno, Simulink, Raspberry Pi
Systems Engineering & Safety Compliance: ARP4754A, FHA, PSSA, Fault Tree Analysis
Optical & Photonics Research: Metasurface fabrication, COMSOL, Lumerical, Optical characterization
Cybersecurity Principles: Encryption, Network Security Protocols, Risk Assessment
Requirements Validation & Verification: DOORS, Change Impact Assessments, Model Coverage Analysis, DTP
Tools & Software: MATLAB, Simulink, Python, DOORS, JIRA, GitLab, OpenCV, Raspberry Pi, Excel, AutoCAD, Visual Studio, Minitab
Soft Skills: Cross-Functional Collaboration, Stakeholder Alignment, Agile Methodologies, Regulatory Compliance, Technical Problem-Solving, Task Prioritization, Growth Mindset

Research & Projects

This section highlights key research and technical projects that demonstrate my expertise in aerospace, embedded systems, photonics, and data analytics. These projects showcase my ability to apply engineering principles, develop innovative solutions, and collaborate in cross-disciplinary environments.

Graduate Research Assistant – Programmable Phase-Change Metasurfaces

University of Washington, Department of Electrical Engineering | Jan 2025 – Present

- Conducting research on cleanroom-free fabrication of programmable optical metasurfaces using CD writers and commercial CDs.
- Designing and fabricating micro- and nano-scale structures for photonics applications.
- Performing electromagnetic simulations and optical characterization using Lumerical, COMSOL, and MATLAB.
- Collaborating with faculty and senior researchers to develop novel photonic devices.
- Documenting findings for peer-reviewed publications and conference presentations.

Graduate Projects

Autonomous Drone Landing Using OpenCV

Master's Program, Cal Poly Pomona | Spring 2022

- Developed an autonomous drone capable of locating and landing on a target landing pad using computer vision.
- Implemented OpenCV on a Raspberry Pi to detect and track landing pads, relaying precise flight instructions.
- Integrated camera and GPS sensors to enhance spatial awareness and precision landing.

Undergraduate Projects

Theo Jansen Biped Robot

Senior Design, CSU Long Beach | Spring 2018

- Led a cross-functional team to design and build a BiPed robot using Theo Jansen leg mechanics and motor-driven motion.
- Managed project budget, completing 20% under budget through efficient resource allocation.
- Ensured timely task completion, driving project milestones and team accountability.

Engineering & Technical Experience

Throughout my career, I have taken on leadership roles in engineering projects, mentoring junior engineers and collaborating with cross-functional teams to drive innovation and efficiency.

Design and Analysis Engineer II

Boeing, Everett, WA | July 2022 – February 2025

- Validated 85% of the Boeing 737-10 MAX Stall Management System's system requirements, ensuring functional alignment and ARP4754A compliance.
- Led Change Impact Assessments (CIA) to evaluate safety impacts and verification needs, ensuring compliance with Parent-Child Requirement relationships.
- Performed Model Coverage Analysis (MCA) for validation and verification against parental requirements.
- Directed verification efforts, leading 13% of testing activities and authoring two Detailed Test Procedures (DTPs), achieving first-round approval.
- Automated requirement validation using MATLAB, optimizing review processes for 3,000+ requirements, reducing time by 30%.
- Conducted 55 Functional Hazard Assessments (FHA) to identify and mitigate risks, ensuring system safety and regulatory compliance.
- Authored Preliminary System Safety Assessments (PSSA) for modifications to the Boeing 737-10 MAX, aligning with ARP4754A.
- Updated and created logic diagrams in Visual Studio for use in Specification Control Documents.
- Performed Fault Tree Analysis (FTA) to validate safety margins for Minor, Major, and Catastrophic functions.

System Engineering Intern

Boeing, Remote | May 2021 – Aug 2021

- Integrated 10+ CATIA V5 applications into Boeing's 3DX platform, streamlining design processes.
- Streamlined software portfolio, identifying legacy tools for retirement, and reducing maintenance costs.
- Resolved compatibility challenges for CATIA V5 and 3DX integration, ensuring system continuity.
- Delivered training briefings, improving team proficiency and cutting training time.

Engineering Intern

Boeing, Everett, WA | May 2018 – Aug 2018

- Tested, debugged, and validated the Stall Management Yaw Damper (SMYD) for Boeing 737-8 MAX using PSIM, ensuring performance and safety compliance.
- Authored certification documents, aligning designs with regulatory requirements.
- Facilitated cross-system integration with the Electronic CAB system, ensuring seamless functionality.

Electric Assembly Technician

New Bedford Panoramx | Aug 2021 – Oct 2021

- Assembled and tested electronic and electromechanical components for airport runway lighting fixtures.
- Conducted soldering, wiring, and troubleshooting to meet FAA safety and performance guidelines.
- Collaborated with engineers, supply chain teams, and sales representatives to enhance product functionality.

Leadership & Operational Experience

Zone Lead

Amazon, La Habra, CA | Nov 2021 – Apr 2022

- Led and supervised operational workflows, ensuring adherence to standard operating procedures (SOPs).
- Trained and mentored associates, improving process efficiency and reducing errors.
- Managed inventory operations, system workflows, and quality assurance measures.

FC Associate I, Direct

Amazon, Greater Los Angeles | Apr 2019 – Nov 2021

- Provided exceptional customer service by efficiently fulfilling orders and managing inventory logistics.
- Engaged in cross-departmental collaboration with Whole Foods teams to ensure product availability.
- Assisted team members in maintaining high operational performance and workplace efficiency.

Assembly Line Worker

L.A. Lighting, El Monte, CA | Jan 2020 – Aug 2020

- Assembled and wired over 10,000+ lighting fixtures, maintaining quality standards and production efficiency.
- Utilized power tools for precision assembly and ensured compliance with technical specifications.

Education & Mentorship Experience

MEP Supplemental Instruction Facilitator

California State Polytechnic University, Pomona | Sep 2020 – May 2021

- Provided one-on-one and group tutoring in C++ and Statistics, supporting 10+ students.
- Conducted academic mentorship and documented progress tracking for continuous improvement.

Additional Work Experience

- **Enumerator** | U.S. Census Bureau | Aug 2020 – Oct 2020
- **Loader** | California Cartage Company | Jul 2016 – Aug 2016

Education

Master of Science (M.S.) in Physics

University of Washington | Expected June 2026

- Focus on **Electromagnetic Theory, Semiconductor Physics, and Quantum Computing**.
- Coursework: **Electromagnetic Theory, Quantum Physics, Applications of Quantum Physics, Applications of Electromagnetic Theory, Semiconductor Physics, Quantum Devices, Integrated Systems Photonics, Quantum Information Practicum, Thesis**.

Master of Business Administration (MBA) in Data Analytics

Eastern Washington University | Expected June 2026

- Coursework: **Business Intelligence for Managers, Data Visualizations for Managers, Business Forecasting for Managers, Machine Learning and Artificial Intelligence for Business, Essentials of Operations Management, Data Driven Decision Making, Corporate Finance, Marketing Management, Leadership and Ethics, Advanced Accounting for Managers, MBA Capstone**

Master of Science (M.S.) in Electrical Engineering

Cal Poly Pomona | May 2022

- Specialization in **Embedded Systems, Software Engineering, and Nanoelectronics**.
- Coursework: **Network Security, Research Methods, Wireless Communication Systems Lab, Data Structures and Algorithms, Embedded Systems, Nanoelectronics, Numerical Modeling, Software Engineering, Digital Signal Processing, Performance Reliability Analysis, Random Processes, Master's Degree Project**.

Bachelor of Science (B.S.) in Electrical Engineering & Physics with a Minor in Applied Mathematics

CSU Long Beach | Dec 2018

- Coursework: **Circuit Analysis, Digital Logic Design, Quantum Mechanics, Differential Equations, Electromagnetic Fields, Signals & Systems, Energy Conversion, Probability & Statistics, Analog Electronic Circuits, Microprocessors, Solid State Electronics, Control Systems, Communication Systems, Digital Signal Processing, Robotics, Power Electronics, Engineering Design Project**.

Certifications & Licenses

- **Currently Enrolled & Studying for:**
    - Fundamentals of Engineering (FE) Exam (Target: Summer 2025)
- **Refresher Courses:**
    - MATLAB Programming for Engineers and Scientists
    - MathWorks Computer Vision Engineer
    - Python for Everybody
    - MATLAB Associate Certification (Expected 2025)
- **Hardware & PLC Certifications to Consider:**
    - Rockwell Automation ControlLogix PLC Programming (Planned 2026)
    - Siemens S7 PLC Programming Certification (Planned 2026)
    - National Instruments Certified LabVIEW Developer (Planned 2026)
    - IPC CID+ Certification for PCB Design (Planned 2026)
    - FPGA Design and Verification Certification (Planned 2026)
- **Software & Programming Certifications to Consider:**
    - Coding for Everyone: C and C++ (Planned 2025)
    - Introduction to Programming with C# (Planned 2025)
    - Java Programming and Software Engineering Fundamentals (Planned 2025)
- **Data Science & AI Certifications to Consider:**
    - Google Data Analytics Certification (Planned 2025)
    - IBM AI Engineering Professional Certificate (Planned 2026)
    - Google TensorFlow Developer Certificate (Planned 2025)
    - AWS Certified Machine Learning – Specialty (Planned 2026)
    - Google Advanced Data Analytics Certification (Planned 2026)

- o Quantum Computing & Machine Learning – IBM or MITx (Planned 2026)
- **Systems & Engineering Certifications to Consider:**
  - o Certified Systems Engineering Professional (CSEP) – INCOSE (Planned 2026)
  - o SAFe Agile Certification – Scaled Agile (Planned 2026)
  - o Embedded Systems Professional Certificate – IEEE (Planned 2026)
  - o Six Sigma Green Belt & Black Belt Certification (Planned 2026)
  - o PMI Project Management Professional (PMP) Certification (Planned 2026)
  - o SPIE Photonics Certification (Planned 2026)
- **Completed:**
  - o Food Safety Manager Certification (ANSI Certified)

Professional Affiliations

- Member, Institute of Electrical and Electronics Engineers (IEEE)