

## MD. NUR ALAM AKASH

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## CAREER SUMMARY

Engineer with hands-on experience in software engineering and industrial application development, along with a strong foundation in VLSI design and layout development. Skilled in building industrial dashboards and user interfaces using Angular and TypeScript, as well as CMOS circuit implementation, custom layout creation, and DRC/LVS verification. Currently contributing to industrial software development at Sincos Group while maintaining expertise in semiconductor design.

## WORK EXPERIENCE

### Software Engineer, Sincos Group

Dec 2024 – Present

- Develop industrial dashboards using Angular, TypeScript, JavaScript, HTML, and Tailwind CSS for monitoring and reporting.
- Developed the full Angular Gateway Project for communication and control of IoT and PLC devices.
- Contributed to systems including CMMP (Compressor Monitoring), Energy Meter, Flow Meter, Carbon Emission, and Generator Efficiency dashboards.
- Enhanced UI responsiveness, layout consistency, and navigation flow across CMMP, EMS, and FMS platforms.
- Collaborated with iCenter modules to integrate data and enhance dashboard interactions.
- Built a custom Markdown editor enabling rich-text formatting and smooth content handling.
- Worked with Node-RED for device data flows and gained basic knowledge of REST API integration for IoT/PLC communication.
- Designed multi-screen enterprise dashboards for Unilever, focusing on clear data visualization and user-friendly interaction.
- Added multilingual support (Bangla & French) to enhance accessibility and client deployment flexibility.
- Provide support at Savar Continental by assessing workflows and Production Evaluating System (PES) operations, improving dashboards/software and conducting user training.

### Chip Designer, Nokshasemi

March 2023 – Nov 2024

#### Training Program

- Learned CMOS fundamentals, circuit design, schematic development, and layout techniques
- Gained hands-on experience with Cadence Virtuoso, Assura
- Developed skills in device sizing, timing analysis, parasitic effects, and signal integrity

#### Practice-Based Industrial Projects

- Worked on practice projects aligned with industrial chip design workflows
- Created stick diagrams & validated circuits with functional simulations
- Designed layouts following 65nm CMOS rules; achieved DRC-Clean & LVS-Clean results
- Designed & simulated: 21-Stage Ring Oscillator, Frequency Divider, Counter, Register, Buffer circuits, Resettable D Flip-Flop (DTC logic), 65nm CMOS Operational Amplifier

## SKILLS

- **VLSI Design:** CMOS circuit design, schematic & layout (65nm), DRC/LVS verification (Cadence Virtuoso/Assura), timing & parasitic analysis, stick diagrams, device sizing, signal integrity basics
- **Software Development:** Angular, TypeScript, JavaScript, HTML5, CSS3, basic React, responsive UI, basic IoT/PLC integration (Node-RED), basic REST API handling
- **Databases & Tools:** PostgreSQL, Git/GitHub, MATLAB, Python, C/C++, Verilog HDL
- **UI/UX & Dashboards:** Figma UI design, industrial dashboard layouts, data visualization, user-flow planning
- **Professional Strengths:** Problem-solving, communication, fast learning, teamwork, adaptability

## HANDS-ON PROJECTS

- Mobile Chat Application — Lightweight mobile chat app with user messaging and notifications.
- Portfolio Website (TypeScript) — Personal portfolio site built with modular UI components.
- A Full-stack Finance tracker using Angular, Node.js, and PostgreSQL with real-time data visualization.
- Graduate Records System (Full-Stack) — Application for managing and displaying graduate information.
- VLSI project on a 16-bit Single Cycle MIPS Processor (Placement & Routing).
- 4-bit Ripple Carry Adder — Schematic and layout design.
- Low-Power Flip-Flop using static latch and dynamic pulse generator.
- Solar-Based Traffic Light System using Arduino and LDR.
- Blind Assistance System using ultrasonic sensors.
- AC Fan Speed Controller using Arduino and TRIAC.
- Wireless DC Motor Speed Control using IR remote and 555 timer.

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## ACHIEVEMENTS

- Runners-up of VLSI Hackathon, MindSparks 2022, powered by Neural Semiconductor.
- Top 15 finalists of the VLSI Day 2022 Design Competition at UIU.
- Final Year Design Project Poster Exhibition (FYDP) — Selected in the Top 10%

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## THESIS & RESEARCH

### Research Article

- A high-performance biosensor design for waterborne bacteria detection based on one-dimensional photonic crystal

### Thesis

- Optical properties of a defective one-dimensional photonic crystal containing graphene nanolayers

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## EDUCATION

### Bachelor of Science in Electrical & Electronics Engineering

Mar 2018 - Nov 2022

Ahsanullah University of Science & Technology  
CGPA - 3.24

### Higher Secondary Certificate in Science

Jun 2015 - Apr 2017

Dhaka City College  
CGPA - 5.00

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## EXTRA CURRICULAR ACTIVITIES

- General member of the AUST Cultural Club
  - Engaged in activities through this club and collaborated with the executive board to organize events and other external grants.
- Organizer at AUST EEE DAY Spring 2021
- Co-Organizer at AUST EEE Excursion 2019
- Assisted in organizing the Annual Office Tour at Sincos Group, contributing to planning, coordination, and team arrangements

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## REFERENCES

**Md. Faysal Nayan**, Assistant Professor of  
the Dept. of EEE, Ahsanullah University of  
Science & Technology  
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**Aman Ullah**, Head of Industrial  
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