Mohd Shahedur Rahman

Electrical & Electronics Engineer
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Profile

M.Sc. in Control, Microsystems, and Microelectronics student at Universität Bremen with hands-on experience in ASIC design (RTL-to-GDSII) and industrial production engineering. Combines strong technical skills in Cadence Innovus/Genus, Verilog, and COMSOL with practical knowledge of manufacturing optimization (6S, Kaizen, ERP/MES systems). Proven ability to bridge theoretical concepts (e.g., PPA optimization in 40nm FinFET designs) with real-world applications (e.g., automated assembly line management).

Skills

Manufacturing & Equipment: Machine setup/adjustment, production line monitoring, quality assurance, equipment maintenance.

Software & Tools: Cadence Innovus, Cadence Genus, Verilog, Synnopsys Design Vision, Verilatior, COMSOL, MATLAB & Simulink, Microsoft Office, Linux, KiCad (PCB & schematic design), Altium (basic), Oracle ERP, MES (Manufacturing Execution System).

Design: CSS, HTML, Photoshop CS6.

Programming: Python (basic), C (basic).

Languages: English (B2), German (A2), Bangla (native), Hindi (advanced), Urdu (advanced).

Certifications: Introduction to SAP (2024), Arduino & Embedded Systems (IEEE), LaTeX Workshop.

Academic Project

ASIC Implementation of RISC-V & OpenPOWER Cores (RTL-to-GDSII) with hierarchical-Based Acceleration and Static time analysis. (G-1.3) *Universität Bremen*

Tools: Cadence Genus (Synthesis), Innovus (Physical Design), Chipyard, Verilog/SystemVerilog, TCL

Implemented end-to-end RTL-to-GDSII flow and gate level simulation for RISC-V (Ibex, BOOM) and OpenPOWER (A2O) cores in 40/45nm FinFET, achieving 500 MHz timing closure with optimized PPA, DRC/LVS-clean GDSII, and automated the flow using TCL scripts for synthesis and P&R.

Solar Cell Performance Optimization using Double Exponential Model *Bangladesh University of Business and Technology(BUBT)*

Tools: MATLAB, Simulink

Applied MATLAB modeling to evaluate Si, GaAs, and Ge solar cells, demonstrating GaAs as the most efficient material for high-performance photovoltaic applications.

Experience

VIVO Communication Technology Co. Ltd. (Best Tycoon) *Narayonganj, Bangladesh*
Production Engineer & IN-CHARGE *20th November 2019 - 20th May 2021*

Optimized high-volume automated assembly lines by applying 6S/Kaizen/PDCA, managing material flow, quality control, fault analysis, and component procurement to improve efficiency and reduce defects.

Solid State Ltd. *Dhaka, Bangladesh*
Assistant Engineer *1st February 2018 - 31st January 2019*

Assisted in installation and commissioning of industrial electrical equipment. Conducted cost-benefit analysis for electrical machinery and supplies and Provided technical support during implementation and maintenance.

Education

M.Sc. in Control, Microsystems and Microelectronics(G-2.07 without Thesis)	*Bremen, Germany*
UNIVERSITÄT BREMEN	
B.Sc. in Electrical and Electronic Engineering (CGPA-3.80)	*Dhaka, Bangladesh*
Bangladesh University of Business and Technology (BUBT) Major in Electronics	*Jan, 2018*

Extra Curriculum

Secretary at IEEE BUBT Student Branch. *Dhaka, Bangladesh*

Bangladesh University of Business and Technology (BUBT) *2017 - 2018*

CMM & CIT examination board Member *Bremen, Germany*
University of Bremen *2024-continue*

References

Prof. Dr.-Ing. A. Garcia-Ortiz *Msc Supervisor*
Chair for Integrated Digital Systems, Universität Bremen
agarcia@item.uni-bremen.de

Abdullah Bin Shams *Bsc Supervisor*
PhD student, University of Toronto, M.Sc., Karlsruhe School of Optics and Photonics, KIT
abdullahbinshams@gmail.com, shams@bubt.edu.bd