Nadir Ali, PhD

Bengalore, India
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Skills

EPDA: Synopsys (Optocompiler, OptSim, ICV, StarRC) , GDSfactory, Klayout
Simulation: CST Microwave Studio (FIT, FEM), COMSOL Multiphysics (FDTD, FEM), Lumerical (FDTD, Mode, CHARGE, HEAT), Synopsys OptSim
Programming Languages: Python, Matlab, Markdown, LaTeX
Measurement Testing: Electrical/Optical Probing, Optical Alignment, Swept Wavelength Lasers , Lightwave Component Analyzers, Electro-optic Modulator, Arbitrary Waveform Generator, Chip Measurement Setup, EDFA, Wavelength Spectrum Analyzer, etc.

Experience

QpiSemi **Bengalore, IN**
Photonics Design Engineer, Full-time June 2022–

- **Build** and lead development of **PICs** (schematic/simulation/layout/verification, data analysis), created component-level design to top-level **photonic layout** with attention to parasitics, losses, noise isolation, performed design **verification processes** to ensure quality and adherence to specifications
- Applied **silicon photonics** experience to enhance the performance of photonics circuits with **high-speed electro-optic modulator** (35 GHz), PN and thermal phase shifters, detectors, and microring resonators
- Maintained EPDA design environment and support for **45 nm monolithic photonics process design kit**, prepared **technical documentation** and communicated with the photonic tools vendor to **debug errors**

JPT Opto-Electronics **Shenzen, CHN**
Technical Consultant, Remote (During Covid) June 2021–May 2022

- Served as the **primary technical resource**, providing expertise and guidance on photonic products
- Developed technical content, including **standard operating procedures**, to streamline operations
- Created user **support documentation** to assist customers in effectively utilizing the product

Indian Institute of Technology Roorkee **Roorkee, IN**
PhD Research Jul 2016–Apr 2021

- Designed (publication) and modelled **photonic switch** using GST and silicon waveguides with ER of >40dB
- Designed (publication) and implemented compact (52 μm) **SiPh 1 × 2 switch** using GST-Si directional couplers
- Conceived, modelled (publication) and optimized **electrically tunable wavelength filter** using hybrid silicon microring resonator with a wavelength tuning range of 4 nm
- Developed **Multi-physics model** in CST to study electrical, optical, and thermal behavior of photonic devices
- Conducted photonic chip characterization using visible camera **chip measurement set-up**
- Collected, analyzed and effectively sorted data obtained from experiments and simulations
- Prepared conclusions and prepared articles and reports, published 5 journal articles, and 9 conference papers

Education

Indian Institute of Technology Roorkee **Rooekee, India**
Physics, Photonics, & Silicon Photonics PhD 2016–2021
Jamia Millia Islamia **New Delhi, India**
Physics, & Laser Spectroscopy M.Sc. 2013–2015
Jamia Millia Islamia **New Delhi, India**
Physics with Honors, B.Sc. 2010–2013

Awards

Travel Grant for JSAP-OSA-2019, Japan, by DOSW, IIT Roorkee Sep 2019
Best Paper Award, ICOCN Conference, Zhuhai, China Nov 2018
Junior/Senior Research Fellowship, MHRD Fellowship Award 2016-2021