Rahul Jaiswal

Ph.D. student & Research Assistant at UNM

Albuquerque, USA
** Willing to relocate
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SKILLS & ABILITIES

Device Characterization: ECV profiling, solar cell I-V & lifetime profiling, optical characterization setup (Ellipsometry, Spectrophotometry, Photoluminescence and Electroluminescence imaging).

EDA, TCAD and application specific Simulation Tools: Sentaurus TCAD (Device, process & optical simulation), Cadence, LTSpice, Silvaco, COMSOL, PC1D, Griddler, Silvaco (Athena)

Semiconductor Fabrication : Oxidation, Diffusion, Lithography, Metallization, Screen printing, Etching

Programming: Python (Scikit-learn, Flask, Tkinter), C++, Mathematica, HTML, CSS, SQL, TCL scripting.

Miscellaneous: Microsoft office, Linux (Debian), IoT prototyping (Arduino, & Raspberry Pi), FPGA prototyping (Spartan-6), Buildroot image development, AWS deployment.

EXPERIENCE

Graduate Assistant: University of New Mexico (50% capacity) 01/2019 – Present
- Research duties at the Center for High Technology Materials (CHTM), Albuquerque.
- In charge for the undergraduate electronics lab.

Research Assistant: Solar Energy Research Inst. of Singapore (100% capacity) 03/2017 – 12/2018
- Project member for XSolar-Hetero Project, an online web-based solar cell simulation interface (http://xsolar-hetero.sg).
- Team lead for device modelling, simulation & characterization of solar cells.
- Support for development of simulation web-services(REST-API's) deliverables.
- Trained on semiconductor characterization tools and responsible for data acquisition.

Research intern: Solar Energy Research Inst. of Singapore (NUS, 100% capacity) 01/2016– 12/2016
- Internship project: Development of a weather reporting station prototype using open-source hardware and software.
- Team member for solar irradiance forecasting and solar irradiance data analysis.

EDUCATION

Doctor of Philosophy:	Electrical Engineering	University of New Mexico	Ongoing	GPA 4.08
Master of Science:	Electrical Engineering	University of New Mexico	01/19 – 07/20	GPA 4.02
Master of Engineering:	Microelectronics	BITS Pilani (India)	08/14 – 05/16	7.38 /10
Bachelor of Technology:	Electronics Engineering	UPTU (India)	08/10 – 06/14	73.7 %

ACADEMIC CONTRIBUTION

- R. Stangl et al., "Developing a web based PV simulation platform (targeting at machine learning combined with advanced device and process simulation to support process optimization)," 2019 IEEE 46th Photovoltaic Specialists Conference (PVSC), Chicago, IL, USA, 2019, pp. 3051-3053

- Wolfram Technology Conference 2018 - Oral, First Author Link to presentation video
  Champaign, IL 16 Oct 2018 - Online Photovoltaic simulation platform using web-Mathematica