

Rahul Jaiswal

Ph.D. student & Graduate Assistant at UNM

📍 Albuquerque, USA
** Willing to relocate
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SKILL-SET

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.

WORK EXPERIENCE

Graduate Assistant: University of New Mexico (50% capacity) 01/2019 – Present

- Solar cell characterization, simulation, device modelling and machine learning model development at CHTM, Albuquerque.
- Academic contributions to journals and conferences
- 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 4.01
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 Contributions

Jaiswal, R., Martínez-Ramón, M., & Busani, T. (2021, June 26). **Probabilistic analysis of solar cell optical performance using Gaussian processes.** arXiv.org. <https://arxiv.org/abs/2107.07342v1>.

Wolfram Technology Conference 2018 - [Link to presentation video](#)
Champaign, IL 16 Oct 2018 - **Online Photovoltaic simulation platform using web-Mathematica**

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.