

Aakash Yadav

Citizenship : Indian | Birth : 15.03.1998



EXPERIENCE IN INDUSTRY

Tata Electronics

Device Engineer | eNVM Technology Development

Taichung, Taiwan

Jan 2025 - Present

- Ran FEM simulations of OTS on COMSOL & proposed novel cells for MLC SOM based eNVM
- Suggested PI flow & test characterization methods for MTP, OTP & mentored junior engineers

Micron Technology

PCS Engineer | Advanced Modeling Group

Hyderabad, India

Feb 2024 - Jan 2025

- Developed automated framework in Python for SPC & DoE for CpK improvement across multiple processes resulting in savings worth millions of USD
- Did FEA of thermal gradient development in etching across ONO stacks in NAND Flash

Tata Digital

Software Engineer | Data Engineering Group

South Mumbai, India

Sep 2020 - Feb 2022

- Developed an end-to-end automated software framework in Python for ingestion of data of millions of customers in nested JSON format to Microsoft Azure
- Hailed as “The Fireball” for significant contributions to launch of the pioneering super app Tata Neu

EXPERIENCE IN ACADEMIA

CEA-Léti

Graduate Research Intern | Advisor: Elisa Vianello

Grenoble, France

August 2023 - February 2024

- Worked on insect-inspired olfaction leveraging spike-signal processing and OxRAM + MAD200
- Ran FEM simulations on COMSOL to determine position dependence of rate of chemisorption to suggest “best” experimental set-up

Ulsan National Institute of Science & Technology

Graduate Research Assistant | Advisor: Hongsik Jeong

Ulsan, South Korea

Feb 2022 - August 2023

- Developed a spiking-domain implementation of electronic structure theory with theoretical proof and implemented software framework in Python verifying the same
- Ran FEM simulations on COMSOL to study MLC in PCM cells & highlighted role of thermoelectricity

Rheinisch-Westfälische Technische Hochschule

Visiting Project Student | Advisor: Matthias Wuttig

Aachen, Germany

May 2019 - Nov 2019

- Studied trends in crystallization kinetics of chalcogenides & its dependence on chemical bonding while supporting the experimental findings with inverse design results
- Performed sputter deposition of PCM stack & optically characterized it using pump-probe laser set-up

EDUCATION

Ulsan National Institute of Science & Technology
M.S. in Semiconductor Materials & Devices Engineering | GPA: 93%

Ulsan, South Korea
Feb 2022 - Feb 2024

Indian Institute of Technology (IIT) Indore
B.Tech. in Electrical Engineering | GPA: 9.1/10

Indore, India
July 2016 - August 2020

PATENTS

- *Ovonic Device for ESD protection* by A. Yadav et al. **approved internally for filing at Tata Electronics**; 16 January 2026

CONTRIBUTIONS IN BOOKS

- A signals-systems perspective on electronic structure theory in Soft Computing and Signal Processing Volume 2 ISBN: 978-981-97-9925-1 A.Yadav et al. (**Springer Nature**; 9 June 2025)
- Chapter 14 pp. 57–63 in Indian Electronic Literature Anthology: Volume I ISBN: 978-93-5811-313-6- A.Yadav (**Indian Institute of Technology KSHIP**; 13 Dec 2023)

JOURNAL PUBLICATIONS

- Investigating the Polarity Dependence of Multilevel Cell Operation in Conventional Mushroom Phase-Change Memory Cells- A.Yadav et al. (**Physica Status Solidi - RRL**; 27 Nov. 2023)
- Classification of properties and their relation to chemical bonding: Essential steps toward the inverse design of functional materials- C.-F.Schön, S.v.Bergerem, C.Mattes, A.Yadav et al. (**Science Advances**; 25 Nov. 2022)
- Tailoring Crystallization Kinetics of Chalcogenides for Photonic Applications- M.J.Müller, A.Yadav et al. (**Advanced Electronic Materials**; 21 Nov. 2021): **Inside Front Cover**
- The potential of chemical bonding to design crystallization and vitrification kinetics- C.Persch, M.J.Müller, A.Yadav et al. (**Nature Communications**; 17 Aug. 2021)

ACADEMIC PRESENTATIONS

- Mitigation of directional multi-level cell operation in a novel variant of double mushroom phase change memory cells- A.Yadav et al. **MEMRISYS 2023** in Torino, Italy

TECHNICAL SKILLS

Research Interests	Emerging memory devices, Neuromorphic computing
Computational Tools	Python, MATLAB, COMSOL, L ^A T _E X, PySpark, Linux, JMP, SQL

PROJECTS

Android App Development	Aug - Nov 2018
<i>Self-Project</i>	<i>IIT Indore</i>

- Built an android application as a platform to facilitate the publication of my raps as well as poetries.
- The content of the app has been made accessible in three possible ways: 1st -usual touch screen; 2nd -using only volume buttons and 3rd -using only voice commands. [Link to the demonstration video.](#)

ACHIEVEMENTS

🏆 Secured & maintained Merit Cum Means (MCM) & UNIST scholarships throughout undergraduate & graduate studies at IIT Indore & UNIST respectively owing to consistent academic performance.

🏆 Earned the Product Management Professional certification authorized by University of Maryland in the year 2025.

🏆 Earned the Good with Words : Writing and Editing specialization authorized by University of Michigan - Law School in the year 2021.

🏆 Earned the Advanced Data Science Specialist - Digital Badge authorized by IBM in the year 2020.

🏆 Conferred with the Award of Excellence for excellent academic performance twice in the school in the years 2014 and 2016.

🏆 Achieved 99.77%ile in JEE Main 2016 (among 1.2 million candidates) and 97.15%ile in JEE Advanced 2016 (among 0.2 million candidates).

🏆 Earned Gold medal in the years 2010, 2011 and Silver medal in the year 2013 in the Intl. Olympiad of Mathematics organized by SilverZone.

🏆 Earned Bronze medal in the year 2013 in the Intl. Olympiad of Science organized by SilverZone.

EXTRA-CURRICULAR ACTIVITIES

- Manage a Wordpress blog for my latest raps.
- Won 1 gold, 2 silver & 4 bronze medals at the highly coveted website AllPoetry for poets worldwide.