Aaditya Sarin
Chemical Engineering

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B.Tech
Male

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Examination	University	Institute	Year	GPA/%
B.Tech	SRM IST	SRM Institute of Science & Technology	2021-25	08.83
12	C.B.S.E	Kendriya Vidyalaya I.I.T Madras	2021	94.80
10	C.B.S.E	Kendriya Vidyalaya C.L.R.I	2019	85.60

WORK EXPERIENCE & INTERNSHIPS

UG Research Student — *Department of Chemical Engineering, (SRM - KTR)* *(from Oct'22)*
- **Manuscripts under preparation** — 3

Winter Internship -*Ohmium* *(Dec'23)*
- Applied AutoCAD proficiency to solve real-world industrial problems.
- Learnt renewable energy R&D at Ohmium, acquiring comprehensive knowledge of cutting-edge green hydrogen production via electrolysis and high-efficiency fuel cell systems for clean energy generation.

International Internship -*Energy Mentors USA + IIT Ropar* *(May - Jul'23)*
- Development of Digital TWIN for a small town with Solar+Wind + Hybrid energy system.

Internship - *Southern Petrochemical Industries Corporation - SPIC Ltd* *(08 - 23 Jun'23)*
- Agrichemical and fertilizer process engineering in SPIC and Greenstar Fertilizers Ltd.,
- Training in Ammonia, Urea, Acids, AlF3, SSP and DAP manufacturing plants.

Winter Internship — Online Start-Up Internship *IIChE* *(Jan-Mar'23)*
- Electric Vehicle Technology Pathway: Challenges and Opportunity (EV)
- Industrial Environmental Pollution Management

Summer Internship — Online Start-Up Internship *IIChE* *(Aug-Sep'22)*
- Petroleum Refinery Engineering

In-plant Training — *Dharangadhara Chemical Works Ltd., DCW Ltd* *(21.Jul - 05.Aug'22)*
- Training in Chlor-Alkali, Membrane Electrolysis, PVC, Chlorinated-PVC and Synthetic Rutile manufacturing and Process Engineering

CERTIFICATIONS

- **Six Sigma** - **White Belt** *(The Council for Six Sigma Certification (CSSC))* *(Apr 23)*
- **STIPS** - **Statistical Thinking for Industrial Problem-Solving**, *(JMP)* *(Jun 23)*
- **Polymers: concepts, properties, uses and sustainability**, *(NPTEL + IIT Madras)* *(Nov 23)*
- **Research Methodology**, *(NPTEL + IIT Madras)* *(Nov 23)*
- **Membrane Technology**, *(NPTEL + IIT Guwahati)* *(Ongoing)*
- **Physical and Electrochemical Characterizations in Chemical Engineering**, *(NPTEL + IIT Guwahati)*
- **ACS Reviewer Lab** - peer review training for scientific researchers, *(American Chemical Society)* *(Jan 23)*
- **SAChE Certificate Program** - **Chemical Process Safety**,*(AIChE)* *(2023)*
- **Hydrogen Energy: Production, Storage, Transportation and Safety** , *(NPTEL + IIT Bombay)* *(Oct 22)*
- **CCSx: Climate Change: Carbon Capture and Storage**, *(The University of Edinburgh)* *(Jun 22)*
- **MATLAB , Simulink** - multiple,*(MathWorks, I.I.T Madras, SRM IST)*

TECHNICAL SKILLS

- **Programming Languages**: C, Python, HTML.
- **Tools & Libraries**: MATLAB, LaTeX, MySQL, BEAMER, Image J
- **CFD, Simulation**: Aspen Plus, DWSIM, COMSOL,
- **IoT**: Arduino, Raspberry Pi.
- **Statistics, DoE and Data Analysis**: R Studio, JMP Pro 17, Origin
- **Others**: Microsoft 365, Ubuntu, AutoCAD, CATIA, Literature Survey, Technical Writing.

CONFERENCE / WORKSHOPS / HACKATHONS

- **Downstream bioprocess design calculations - a hands-on workshop**, *(IIT Madras)* *(Dec 23)*
- **Getting Started with Design of Experiments**, *(JMP + Royal Society of Chemistry)* *(May 23)*

- **Nokia-IET-SRM 2-day Workshop on SOC Boards** - Participation, *(SRMIST - VDP)*
- **SHAASTRA 2022** - *National Level Technical symposium - (I.I.T Madras)*
  - Workshop - Introduction to Arduino and IoT, Simulation of Mechanisms using MATLAB
- **SIH-2022** - Team **ACCEX**, *(SMART India Hackathon 2022)*
  - Development of a web-based platform & mobile app for storing & sharing information about accessible buildings/ offices/ public places/ bus stops/ railways/ marketplace schools etc for the physically challenged.
- **HACKSUMMIT 3.0** - Team **REBOOTERS** - Team leader
  - Development of a smart irrigation system with soil composition analysis.
- **HYBRID HACK** - Team **AEDROTHIUS** - Team leader
  - Case study and Development of a Hybrid Renewable Energy System as a stand-alone power system.
- **Categorical and Continuous Data Meta-Analysis 2-day Workshop on R**, *Centre for Statistics, SRMIST - KTR*
- **Computational Techniques for Chemical Engineers** - **A Preface Training on COMSOL**, *SRMIST - KTR*
- **Plot, Analyze, Excel : Origin Software for Research & Higher Studies**, *SRMIST - KTR*

Position of Responsibility POR

- **ChE Dept**, *Joint Secretary – CHEMFLUX 11.0*   *(Sep'23-Mar'24)*
  - Served as the Joint-Secretary for Chemflux 11.0, a national-level student technical fest, managing organizational responsibilities.
  - Coordinated event logistics, sponsorships, and promotional campaigns to ensure seamless execution.
  - Facilitated technical competitions, workshops, and networking sessions for attendees across universities.
  - Prepared notebooks from recycled waste books and papers alongside team members, providing resources to those in need through an eco-friendly initiative.
- **ChE Dept**, *Member - The SRM Chemical Club (R&D)*   *(from Nov'22)*
- **NextTech Lab** *Associate - TESLA Lab (IoT, embedded systems, Robotics)*   *(from Nov'22)*
- Volunteer for *Aarush'22, Envision, Chemflux*
- **Team Envision** *Member - Hardware*   *(from Jun'22)*
  - Arduino, Raspberry Pi, implementation and support for multiple projects and hackathons in university events.

Membership in Professional Socities

- Student Member, **IIChE** : The Indian Institute of Chemical Engineers SM-22061436   *(from Apr'22)*
- Student Member, **ACS** : American Chemical Society - 33436237   *(from Dec'22)*
- Student Member, **SPE** : Society of Petroleum Engineers   *(from 2023)*
- Student Member, **AIChE** : American Institute of Chemical Engineers - 009905552999   *(from 2021)*
- Student Member, **AIChE IfS** : Institute for Sustainability - 009905552999   *(from 2021)*

Research Projects

- **Project**, *Multiple IoT Projects*
  - *A safety device for lithium-ion battery fires* - 1st Prize in TechKnow '21   *(May 22)*
  - *Smart Health Tracker, Smart Bin, Water Dispenser* - Demo in **Aaruush'22 EXPO**   *(Oct 22)*
- Nanofluids - Synthesis and characterisation,   *(Mar - Oct'23)*
  - Graphene, Cu, Ag oxide nanoparticle synthesis and property evaluation using Zeta-sizer, FTIR, SEM.
  - Experiments on thermal conductivity of nanofluids in microchannels.
- Design and analysis of Hybrid energy system, **Energy Mentors USA**   *(from 2023)*
  - Digital Twin of a hybrid energy infrastructure for a community of 2,000 families underpinned by affordable, reliable, and sustainable energy (Solar, Wind, Hybrid) using MATLAB + SimuLink.   *(Jun - Jul'23)*

PUBLICATIONS - Paper / Poster / Presentations/ Reports

1. A. Sarin et al., *A comprehensive assessment on pyrolysis of thermoplastics: Environmentally friendly plastic waste management approach*, Environmental Research, Manuscript submitted.
2. Aaditya Sarin, *A Review of Recent Developments in Ammonia as Marine Fuel*. SCHEMCON 2023, IIChE + KEC, Kongu, Sep'23. Presentation
3. Aaditya Sarin, *Diverse Fertilizer Complex*. SPIC Internship Report, Jul'23. - Report
4. Aaditya Sarin, *Review of electrolyser technologies for Hydrogen production*. CHEMFLUX 10, SRM IST, Nov'22. - Presentation
5. Aaditya Sarin, *Petroleum Refinery Engineering*. IIChE + IOCL Internship Report, Sep'22. - Report

6. Aaditya Sarin, *Trends in Carbon Capture, Utilization and Storage CCUS Technologies and Status in India*. SCHEMCON 2022, IIChE + NITW, Warangal, Sep'22. Presentation

7. Aaditya Sarin, *An IoT based Fire Safety Device for Lithium Batteries*. SCHEMCON 2022, IIChE + NITW, Warangal, Sep'22. - Poster

8. Aaditya Sarin et al., *A Fire Safety Device for Li Batteries* in 22nd National Convention of Electrochemists - NCE-22, CSIR-CECRI + PSG Tech, Coimbatore, Aug'22. - Poster

9. Aaditya Sarin et al., *A safety device for lithium-ion battery fires using Raspberry Pi with temperature and smoke sensor*. TechKnow'21 ; SRM IST, May'22. - Poster - **<u>1st Prize</u>**

10. Aaditya Sarin, *Trends in Carbon Capture, Utilization and Storage CCUS Technologies and Status in India*. In Chemical Engineering Competition for Knockout; ChECK '22; RVR & JCE: Guntur, Mar'22. - Paper **won a prize**.

11. Aaditya Sarin, *Trends in Carbon Capture, Utilization and Storage CCUS Technologies and Status in India*. CHEMFLUX' 9.0; SRM IST, Feb'22. Paper & Presentation.