Arpan Kumar Mandal

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PROFESSIONAL SUMMARY

Bionics enthusiast blending biology, coding, and design to innovate human-tech integration. I believe these skills are essential for creating groundbreaking bionic solutions that enhance human potential and redefine the future of technology.

EDUCATION

	CGPA	Year of Completion
SRM Institute of Science and Technology B.Tech Biotechnology w/s Genetic Engineering		2026
Kendriya Vidyalaya Sangathan, Hyderabad Std. XII CBSE	88%	2022
Kendriya Vidyalaya Sangathan, Mathura Std. X CBSE	89%	2020

ACADEMIC COLLABORATIONS

Dr. E Selvarajan   **Chennai, TN**

Undergraduate Research Assistant   *October 2024 - Present*

- Learning laboratory skills, working on "Co-immobilization of cellulase and xylanase in Fe_3O_4 membrane"
- Authoring review paper titled "Nano-enabled Membranes, Sorbents, and Catalysts for Addressing the Challenges for Carbon Capture and Utilisation"

Dr. Manoj Kumar   **Chennai, TN**

Undergraduate Research Assistant   *August 2023 – July 2024*

- Researched tardigrade culture, exploring their extreme environment adaptability, survival mechanisms, and potential applications in biotechnology and space studies.

Dr. Poornima S   **Chennai, TN**

Undergraduate Project Lead   *May 2024 – Present*

- *Building of an EaS (Encryption as Service) platform for general users and API integration for industrial use cases.*

Dr. Helen Victoria A   **Chennai, TN**

Undergraduate Project Lead   *October 2024 – January 2024*

- Developed a Generative AI-based LLM functioning as a virtual psychiatrist/companion, aligned with medical guidelines and enhanced with hallucination-reduction techniques to ensure ethical, reliable, and supportive mental health interactions.

PUBLICATIONS

1. Authoring a review paper on Nano-enabled Membranes, Sorbents, and Catalysts for Addressing the Challenges for Carbon Capture and Utilisation, under editing

EXPERIENCES

SRM-IST, RUDRA | *Rover Developer/Coder*   **Chennai, TN**
Nov 2022 - Feb 2024

- Member of the Mars Rover Development Club at SRM, contributing to the design and testing of the rover.
- Gained hands-on experience in robotics, engineering, and teamwork through project-based learning.

SRM-IST, CENTINEL | *Founder/Vice-President*   **Chennai, TN**
October 2023- October 2024

- Focused on hands-on learning, workshops, and competitions to empower students with practical cybersecurity skills.

SafelyAPK | Undergraduate Intern   **Chennai, TN**
June 2024 - July 2024

- Worked at a reverse-engineering app startup to identify vulnerabilities, malware, and data leaks.
- Ensured enhanced mobile app security through advanced analysis techniques

Fiverr | Freelancer   **Remote**
Feb 2023 - Jun 2023

- Freelanced on Fiverr, delivering coding-based services to global clients with a focus on quality, communication, and timely project completion.

ADDITIONAL EXPERIENCES

- Project: **AI - Medical Image Scanner**   *Nov 2024 - Dec 2024*
  - *Developed an AI-powered medical image scanner using generative AI to enhance diagnostic accuracy.*
  - *Automates disease detection from scans, improving efficiency and supporting healthcare professionals while being accessible to common people.*

- Project: **DDOS - Protection System**   *Nov 2022 - Dec 2022*
  - Built a robust and simple firewall application to detect and mitigate DDoS attacks in real-time.
  - Utilized advanced traffic filtering and anomaly detection to ensure network security and uninterrupted service availability for small business owners.

- Project: **JETAyu: Compact Mars Exploration Rover**   *Dec 2022 - Jun 2023*
  - *A small, lightweight rover designed for Mars exploration.*
  - *Equipped with basic sensors, tools, and onboard chemical testing capabilities, it efficiently collects and analyzes data.*
  - *Ideal for simple, cost-effective space missions.*

- *Project: **High-Speed AES Encryption Leveraging GPU Computing**   Nov 2023 - Dec 2023*

TECHNICAL SKILLS

Technical Skills: Bioinformatics, Genomics, DNA/RNA Extraction, Gene Expression Analysis, Electrophoresis, Mass Spectrometry, Enzyme Immobilisation, animal cell culture, Microscopy, Python, Machine Learning, Linux Systems, CUDA - NVIDIA, Generative AI, Cybersecurity, DevOps, Data Visualization (Python), RUST Programming Language, Data Science

Soft Skills: Team Leadership, Strategic Planning, Scientific Writing, Critical Thinking, Public Speaking

Languages: Bengali (Native proficiency), Hindi (Bilingual proficiency), English (Bilingual proficiency)

COURSEWORK

- Value Added Course: Genetic Counselling by SRM-IST
- Udemy: Advanced Machine Learning Course
- Udemy: System Scaling and Architecture Course

REFERENCES

1. **Dr. E Selvarajan**
   Email: selvarae@srmist.edu.in
   Phone+91 98434 30425

2. **Dr. Balaji Srikaanth P**
   Email: balajis7@srmist.edu.in
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3. **Dr. Poornima**
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