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**Year of undergraduate study \* 2023**

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**Current course \*Electronics and communication Engineering**

**Year of undergraduate study \*2023**

* Who will benefit from your solution? \*

Maximum 50 Words - [as5539@srmist.edu.in](mailto:as5539@srmist.edu.in)

Untreated sewage is the leading polluter of water sources in India,causing host of diseases. In some places, the cleaners are generally very poor men who dive into the toxic sludge to clean it.In others,manholes are lifted and pumps are used to clean the sewers.Our solution will help the government to monitor and take measures to rectify them. It benefits all the people of that region. It also reduces pollution and risk of accidents such as leakages. We can monitor the overflow of sewage systems during heavy rain and floods.

[sp2819@srmist.edu.in](mailto:sp2819@srmist.edu.in)-

* **Tell us of any experience and skills your team has that will help you get your solution to market?**

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[Suriya Devalan AR](mailto:arsuriya18@outlook.com)- Editing Errors and Design Change in Solidworks, CNC-based Bluetooth-operated Learning Aid for Neurodiverse Children. Non-contact based COVID patient monitoring system. Atmospheric Water Generator, Sludge-Traversing ROV

**Shraddha Panda -** literature skills in python**,** communication skills.

**Pushpal Das** SKILLS-Embedded systems,microprocessors, digital system design, wireless communication, entrepreneurship, Tools:Proteus, Xilinx Vivado, Arduino IDE, Cisco Packet Tracer, TinkerCAD, IBM Watson, Node Red.

EXPERIENCE-

Projects- E-Learning Aid for Children with Autism or Dyslexia, Triple carry avoidance, Non-contact based covid monitoring system, Sludge-Traversing ROV.

Internships- MSME Technology Development Centre, government of India. Aug 2021 – Sep 2021

Agra, Uttar Pradesh

• Embedded system and Iot training with hands on proteus simulation and projects based on fundamental projects.

Vyorius. Nov 2021 – Dec 2021

West Ghonda, Delhi

• VLSI design and Iot training with hands on Xilinix Vivado simulation and 5 major/minor projects.

MyCaptain. Nov 2021 – Dec 2021

Bengaluru, Karnataka

• Community building and creating impact in my campus, SRM Institute of Science and Technology.

**Aryan N**

* Solidity, ethereum mainnet development, polygon sidechain development, Golang, javascript, GraphQL, Nodejs, The Graph, Express, MongoDB, React, MySQL, Web3.

Experience:-

Instadapp. Feb 2022 - current

* Blockchain developer.
* Projects on Aave, The Graph, Hardhat, Solidity, Web3.

TechoKids. Aug 2021 - Nov 2021

* Web developer.
* Projects on Nodejs, Reactjs, MongoDB.

Barebrains(Neso Academy). Dec 2020 - May 2021

* Web developer.
* Projects on React, Firebase.

**Ved Prakash Dubey -** Machine Learning, Deep Learning, Computer Vision, Data Science, Backend Development Tools: C++, Javascript, Python, Tensorflow, PyTorch, NumPy, Pandas, AWS

Experience:

* Software Development Intern - My HashCode ( May,2021 - August,2021)
* Machine Learning Intern - AI Technology and Systems (June, 2021 - July, 2021)

Achievements:

* 3rd place in ICETCI-2021 Competition on "Machine learning based feature extraction of Electrical Substations from Satellite data '' organized by IEEE-ICETCI in collaboration with RRSC-Central, NRSC, ISRO, Nagpur.
* Stellar Local Lead - 4th place winner at the NASA International Space Apps Challenge from the Aarush Bangalore chapter.
* 2nd Position at Hibernation Hacks, MLH
* 1st place in SRM TechKnow 2019: Built and demonstrated a Solar-Tracker using Arduino.

**(20 words each time to flex your skills as…. “NAME- SKILLS,PROJECTS)**

* **What do you think will be the most innovative aspect of your proposed solution? \***

As per India’s population every manhole and sewage is surrounded by at least 5 living species. Which is very unhygienic. Countries like Germany, Europe etc have already implemented ROV techniques that are lacking in india.

There are many unnecessary cracks underwater, which can be fixed with increasing the efficiency of our ROV device.

ROVs are often used when diving by humans is either impractical or dangerous, such as working in deep water or investigating submerged hazards. ROVs and AUVs carry equipment like video cameras, lights, and robotic arms to grab things. By going where humans can't go, these underwater robots help us safely study the ocean. ROVs allow us to investigate areas that are too deep for humans to safely dive themselves, and ROVs can stay underwater much longer than a human diver, expanding the time available for exploration.

Maximum 50 Words- [Shraddhapanda0802@gmail.com](mailto:Shraddhapanda0802@gmail.com)

**Provide an overview of your solution's technical feasibility and why you think it will work effectively? \***

**Maximum 100 words-**

Using computer vision the ROVs can

analyse and process the video stream and

detect the structural integrity of the sewage pipelines.Sensors can be fitted into the ROV to detect and

measure the existence of harmful gases

and substances.All the data will be transmitted to a software or an

application where the ROVs can survey a large area

in a relatively short period of time and can process and

send the information using embedded systems in a

relatively short period of time thus resulting in planning

of an effective rescue operation whenever necessary.Smaller ROVs i.e. mini drones have the added

advantage of being able to fit into smaller places

where humans can't therefore produce more

data for processing and even capturing

higher quality images of every small fault in the sewage

drains.This also results in production of a large amount of data

for image processing and for future reference.