



## KUSHAL SAINI

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## Education

<b>Indian Institute of Technology, Kharagpur</b> B.Tech in Electronics and Electrical Communication Engineering	2016 –2020 (by the end of the 5 <sup>th</sup> Semester) CGPA - 8.61/10
<b>Rajkiya Pratibha Vikas Vidyalaya</b> CBSE Class 12 <sup>th</sup>	2015–2016 91.8%
<b>Rajkiya Pratibha Vikas Vidyalaya</b> CBSE Class 10 <sup>th</sup>	2015–2016 CGPA - 9.8/10

**Relevant Coursework:** *Programming and Data Structures, Probability and Stochastic Processes, Introduction to Internet, Matrix algebra, Network Theory, VLSI, Microcontroller and Embedded Systems, Digital Signal Processing, Digital Communication, Semiconductor Device*

## Skills

<b>Languages:</b> C/C++, Java, Verilog, Python, Typescript <b>Windows Softwares and Scripting Languages:</b> Xilinx, Arduino, Tina-TI, MATLAB, Virtuoso Analog Design Environment, PuTTY, Jupyter notebook <b>Database and Cloud Services:</b> MySQL, Postgres, AWS services, Google Cloud, Firebase Git	<b>Platform:</b> Linux, Eagle CAD, Proteus, SolidWorks, Android Studio, React-native, Angular, Django, Flask, Django-Rest framework, JSON, HTML, CSS <b>Control Version System:</b>
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## Projects and Internships

<b>Autonomous Underwater Vehicle</b> <i>Under the guidance of Prof. Cheruvu Siva Kumar</i>	Feb' 17 - (ongoing) IIT Kharagpur
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### Embedded Systems Developer

- ROS programming to operate servo motor.
- Done Arduino programming for collecting sensors data and I2C communication to control thrusters.
- Done Circuit simulation in Tina TI and Proteus.
- Done PCB designing in Eagle CAD.
- Made complete new circuit for Kraken3.0 version of AUV

### VLSI Laboratory

*Under the guidance of Prof. Indrajit Chakrabarti*

- Designed and verify the behaviour of digital logic circuits using Xilinx and Verilog language.
- Done simulation and layout design in Virtuoso Analog Design Environment.

### Digital Signal Processing Laboratory

Jan' 19 - (ongoing)

*Under the guidance of Prof. Sharba Bandyopadhyay*

- Done audio signal processing in MATLAB.
- Implemented the paper [http://www.utdallas.edu/~assmann/hcs6367/shannon\\_zeng\\_kamath\\_wygonski\\_ekelid95.pdf](http://www.utdallas.edu/~assmann/hcs6367/shannon_zeng_kamath_wygonski_ekelid95.pdf).

### Agnext Technologies Pvt. Ltd

#### IOT Developer

- Programmed a mesh network for ESP8266 NodeMCU to transfer the data from sensors to a single raspberry pi.

### Leandigit Technology Solutions Pvt. Ltd

#### Android developer and Database designer

- Did a computational study of Lean Manufacturing.
- Build the Entity Relationship Diagram(ERD) and Database creation on Google Cloud.
- Developed an Android application that can manage the record of manufacturing industry.
- Did server-side scripting in PHP.

### Open Soft | General Championship Technology | IIT Kharagpur

- Was part of the Gold winning team in the software development competition, OpenSoft. The problem statement was to develop a decentralized ethereum based photo sharing app.

### Internet of Things | Internshala Trainings

- The training program consisted of Building an IoT Monitoring System.
- Controlling Devices Over the Internet and Cloud, APIs and Alerts modules

## Positions of Responsibility

<b>Secretary   Fine-Arts   Social and Cultural   Radhakrishnan Hall</b> *Awarded as "Best Secretary" Social and Cultural 2017-18	Sep '17 -Mar '18 IIT Kharagpur
<b>Team Captain   Fine-Arts Social and Cultural   Radhakrishnan Hall</b>	Sep '18 - Present
<b>Embedded Team Captain   Autonomous Underwater Vehicle Research Group   IIT Kharagpur</b>	Sep '18 - Present

# Extra Curriculars

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**Cultural:**

- \* Team member of the gold-winning Illumination team of Radhakrishnan Hall of Residence, IIT Kharagpur
- \* Team member of bronze winning Rangoli team of Radhakrishnan Hall of Residence, IIT Kharagpur
- \* Team member of silver-winning Thermocol and clay modelling team of Radhakrishnan Hall of Residence, IIT Kharagpur
- \* Team member of Fine-Arts Cup winning Fine-Arts team of Radhakrishnan Hall of Residence, IIT Kharagpur
- \* Team member of General Championship Social and Cultural Cup winning team of Radhakrishnan Hall of Residence, IIT Kharagpur

**Technical:**

- \* Member of Open Software inter-hall team of Radhakrishnan Hall of Residence, IIT Kharagpur
- \* Member of Hardware Modelling inter-hall team of Radhakrishnan Hall of Residence, IIT Kharagpur