



KUSHAL SAINI

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EDUCATION

YEAR	EDUCATION	INSTITUTION	CGPA
2020	B.Tech in Electronics and Electrical Communication Engineering	Indian Institute of Technology, Kharagpur	6.67/10
2016	CBSE Class 12th	Rajkiya Pratibha Vikas Vidyalaya	91.8%
2014	CBSE Class 10th	Rajkiya Pratibha Vikas Vidyalaya	9.8/10

COURSEWORK INFORMATION

Computer Sc.: Programming and Data Structures, Machine Intelligence and Expert Systems, Data Analytics, Digital Image Processing
Mathematics: Probability and Stochastic Processes, Matrix and Linear Algebra, Numerical Methods
Electronics: VLSI Engg, Digital Signal Processing, Microcontroller and Embedded systems, Semiconductor Devices

SKILLS

Languages and Software Tools: C, C++, Python, Java, TensorFlow, Keras, SQL, TypeScript, JavaScript, HTML, PHP, MATLAB
Frameworks: Angular, Django, Django REST Framework, Flask web framework, Node JS, Express.js, MEAN stack, Bootstrap
Cloud Platform and Database: Google Cloud Platform, AWS, Mysql, MongoDB, Postgresql
Os: Windows, Linux
Version Control System: Git

PROJECTS AND INTERNSHIPS

- SEARCH ENGINE FOR LEGAL DOCUMENTS, IIT KHARAGPUR** **Mar’ 2019**
 - Problem statement was to design an NLP based Search Engine for browsing past cases (Supreme Court) useful for Lawyer.
 - Developed the backend using the Flask web framework and integrated it with the search engine model and frontend.
 - Search time under 2 seconds and we were awarded gold thus acknowledging the quality of our search results.
- IOT DEVELOPER | UAV NETWORKS FOR REAL-TIME SURVEILLANCE | IIT KHARAGPUR** **Jul' 2019 - present**
 - Developed a data transfer system using Raspberry pi and CAM to share the data directly to the ground station from the drone.
 - Improved the data transfer efficiency of the drone by 25% after conducting after performing simulations using Wireshark.
 - Built a communication system in raspberry pi to establish networking protocols and tested it between 5 drones.
 - Analyzed and implemented research papers on optimising the position of drones to increase networking between them.
- FULL STACK DEVELOPER | P2 POWER SOLUTIONS PVT LTD** **May' 2019 - Jul' 2019**

Environment: Angular, Django RestAPI, Bootstrap, HTML, SCSS Mysql, AWS deployment

 - Developed backend and database management system in Django rest-framework and MySQL for Web, Android and IOS app.
 - Incorporated a Ticket Management System in the web app to optimise the overall tracking of client enquiries.
 - Formalized a Login Architecture to regulate the granting of 4 different types of permission levels to 3 categories of users.
 - Deployed the web app on AWS console using an EC2 and RDS instance for testing purposes.
- ANDROID DEVELOPER | LEANDIGIT TECHNOLOGY SOLUTIONS** **May '2018 - Jun '2018**

Environment: Android Studio, PHP, MySQL, Python, Google Cloud Console

 - Participated in a 5-day long orientation program about Lean manufacturing with waste minimization.
 - Developed a process pipeline monitoring Android, IOS app using React-native for inventory optimisation and bottleneck identification.
 - Developed the backend using PHP and MySql and deployed the program on google cloud console for testing and development.
- EMBEDDED SYSTEMS AND SOFTWARE | AUTONOMOUS UNDERWATER VEHICLE** **Feb' 2017 - present**
 - Developed a Battery management system that helped in improving fault detection by 10% hence increasing system efficiency.
 - Wrote code in ROS for calibrating the servo motors of the Gripper for underwater object picking bot using Arduino.
 - Used Proteus and TINA TI for performing the simulations for scaling of the Kill Switch and Hydrophones Amplifiers.
 - Proposed the use of PCBs to improve the spatial efficiency and reduce noise in Kraken3.0, AUV’s NIOT qualifying bot.

AWARDS AND ACHIEVEMENTS

- Qualified for the award of scholarship in Cass VIII **National Talent Search Examination** 2012 conducted by N.C.E.R.T.
- Selected in the Preliminary Design and Conceptual Design of the 6th National Competition on **Student Autonomous Underwater Vehicle**

POSITION OF RESPONSIBILITY

- Secretary | Interhall Fine Arts team RKH IIT Kharagpur**
- Elected to lead a team of 2 Captains and 10 members in In the interhall fine arts cup of Social and cultural GC 2017-2019.
 - Negotiated and managed a budget of about INR 50,000 utilized across five different fine arts cup events.
 - Led the hall's Collaging team to win the Gold medal for the first time in the history of RK hall of residence.

EXTRACURRICULAR ACTIVITIES

- Social and cultural:**
- An integral part of the Gold winning team of Radhakrishnan Hall of residence in Inter-Hall Rangoli 2018 and 2016
 - Part of the sets design and backdrop unit of the Bronze winning Inter-Hall Choreography team in 2018
- Sports:**
- Secured third position for RK hall of residence in the Inter-Hall Chess tournament in Sports GC 2017-2018
- Tech:**
- Member of the Gold winning Interhall open soft team in 2016-2017 and 2018-19
 - Involved in the Ideation process of Interhall Hardware modelling and Product Design in 2017-2018