

Department of Electrical Engineering
EE- 401 Final Year Design Project
Project List



F/SOP/FYDP/02/00

Batch: **2020**

Semeste **Fall, 2023**

Group Number :	Project Title:	Student Name	Supervisor / Co -supervisor	Industry
1	An approach to design a digital receiver for software defined radio (SDR)	1 EE-20036 Huzaifa Raza Siddiqui	Prof. Dr. Saad Ahmed Qazi	
		2 EE-20026 Aliza Malik		
		3 EE-20041 Ghazwan Faisal	Dr. Fahim ul Haq	
		4 EE-20029 Mariam Zakir Hussain		
2	Design and development of a Motor controller for Industrial Automation	1 EE-20006 Mumiba Ansari	Dr. Riaz Uddin	
		2 EE-20001 Rumaisa Idrees		
		3 EE-20002 Hafsa Usman	Humayun Khan and Mahnoor	
		4 EE-20027 Wareesha Azwar		
3	Improved Design of a Walking Algorithm of Watch-Dog Robot for Rescue And Surveillance Applications	1 EE-20030 SADIA BURHAN	Dr. Riaz Uddin	
		2 EE-20007 SYEDA AJIA ZAHID		
		3 EE-20003 ESHA ANWER	Madiha Akbar	
		4 EE-20040 SYED TAIMOOR ALI		
4	Synthetic Data Creation for Motor Prognostic using Digital Twin	1 EE-20032 Muhammad Ammar	Prof. Dr. Saad Ahmed Qazi	Omer Razzaq
		2 EE-20012 Muhammad Aman Mushtaq		
		3 EE-20031 Syeda Tooba Wasiq		
		4 EE-20310 Rabia Batook		
5	Modelling and designing of AC and DC Busbar for Bank Al-Habib Malir branch	1 EE-20018 Devraj	Ms. Aiman Najeeb	
		2 EE-20037 Nazeer Ahmed		
		3 EE-20038 Mujtaba Ali		
		4 EE-20320 Lakhan		
6	Design of a Microarchitecture of Network on Chip (NoC) for Multi Processors System on Chip (MPSoC)	1 EE-20067 Muhammad Mubashir	Prof. Dr. Saad Ahmed Qazi	
		2 EE-20013 Muhammad Tayyab Shaikh		
		3 EE-20014 Muhammad Sharique	Dr. Ali Ahmed	
		4 EE-20022 Umer Raza Khan		
7	A RISC-V ISA based General Purpose Graphic Processing Unit	1 EE-20020 Muhammad waleed jalil farooqui	Prof. Dr. Saad Ahmed Qazi	
		2 EE-20051 Wania Ishtiaque Ansari		
		3 EE-20185 Ifrah Akbar	Hafsa Amanullah	
		4 EE-20010 Muhammad Muzzammil Behzad		
8	Comparison of Thermal and EL Imaging for Crack Detection and Quantification of Crack Levels using EL Testing with the aid of Machine Learning	1 EE-20028 Farheen Naz	Dr. Muhammad Mohsin Aman	
		2 EE-20005 Amna Imran		
		3 EE-20025 Wajiha Ahmed		
		4 EE-20033 Aqsa Sohail		
9	Fault diagnosis of an induction motor using smart integrated devices	1 EE-20023 Abdullah Salik	Dr. Muhammad Ali Memon	
		2 EE-20008 Jamaluddin Arfi		
		3 EE-20009 Muhammad Mubashir		
		4 EE-20200 Ahmed Raza		
10	Prediction of Health Indices and Condition Monitoring of Lithium-ion Battery for Lifetime Analysis using Machine Learning	1 EE-20062 Muhammad Ghias	Dr. Abdullah Munir	
		2 EE-20046 Moiz Shah Gilani		
		3 EE-20047 Syed Muhammad Murtaza		
		4 EE-20049 Sarim Ahmed Khan		
11	Predictive Maintenance of Induction Motors using Machine Learning and FET	1 EE-20015 Muhammad Soban Aamir Abbasi	Prof. Dr. Saad Ahmed Qazi	Umer Razzaq
		2 EE-20222 Muhammad Faizan Raza		
		3 EE-20044 Anas Amir		
		4 EE-20196 Humaira Rajper		

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12	FPGA implementation of extended Kalman filter for SOC estimation of lithium-ion battery in electric vehicle	1 EE-20057 UMEMA IMTIAZ	Mr. Hammad Uddin	
		2 EE-20053 SHEHZADI ARHAMA		
		3 EE-20060 MUHAMMAD ANAS AZAM		
		4 EE-20192 SUFFAN SHAIKH		
13	Reliability Enhancement of Electric Vehicle Charging Stations using Grid Modes Assessment	1 EE-20089 Muhammad Yahya Mazhar	Dr. Beenish Sultana Dr. Abdullah Munir (Co-Supervisor)	
		2 EE-20091 Abdullah Hassan Khan		
		3 EE-20079 Ibad Adil		
		4 EE-20094 Syed Muhammad Kaunain Asfi		
14	Designing a controller for dynamic wireless power transfer in electric vehicle for improved Efficiency	1 EE-20072 Hafsa Mahmood	Dr. Umbrin Sultana	
		2 EE-20073 Uroosa Zakaria		
		3 EE-20308 Areeba		
		4 EE-20307 Anas Ahmed		
15	A Scalable Real-Time Non-Intrusive Load Monitoring System for the Estimation of Power Consumption in Household Appliances	1 EE-20052 Aiman Mahmood	Dr. Abdullah Munir Mr. Muhammad Hassan ul Haq (Co-Supervisor)	
		2 EE-20054 Areesha Zafar		
		3 EE-20078 Syed Bassam Ejaz		
		4 EE-20080 Areeb Haque		
16	Design & Development of breakdown voltage tester for liquid dielectrics	1 EE-20259 Muhammad HaqNawaz	Mr. Adnan Ali	
		2 EE-20084 Zain Aslam		
		3 EE-20234 Hasan Naecem		
		4 EE-20304 Hatim		
17	Development of an advanced circuit breaker test bench	1 EE-20088 Muhammad Muzeez	Dr. Muhammad Mohsin Aman	
		2 EE-20086 Muhammad Usman		
		3 EE-20087 Lala faraz		
		4 EE-20081 Abdullah Khan		
18	Optimal transmission network expansion planning in power systems with renewable energy penetration	1 EE-20074 Aizza Anwer	Dr. Umbrin Sultana	
		2 EE-20056 Arisha Alam		
		3 EE-20059 Shaheena Khursheed		
		4 EE-20102 Sana Ashraf Ashrafi		
19	Enhancement of loadability and voltage stability in grid-connected Microgrid network using IEEE 30 bus radial distribution network.	1 EE-20082 Ali Ahmed	Ms. Shahnaz Tabassum	
		2 EE-20068 Safi Ullah		
		3 EE-20193 Muneeb ur Rehman		
		4 EE-20024 Ammar Salim Khan		
20	Design of a Data Acquisition System for High-Speed Sampled-Value Transmission and Power Quality Analysis of the 20th Harmonic	1 EE-20061 Muhammad Subhan	Mr. Muhammad Hassan ul Haq	Usman Bin Sohail
		2 EE-20043 Hamza Arshad Khan		
		3 EE-20065 Burhanuddin Huzaifa		
		4 EE-20150 Muhammad Deebaj Haider		
21	Small Signal Stability Analysis of Defined Kundur/IEEE Benchmark Network Through PSS Fine Tuning Using PSCAD	1 EE-20090 Sarim Rehan Qaimkhani	Dr. Abdullah Munir	Syed Hassan Mujtaba
		2 EE-20076 Anza Khan		
		3 EE-20071 Huda Waqar		
22	Sustainable EV Charger: A Magnetic Resonance Wireless Charger With Renewable Energy Integration	1 EE-20133 Hafsa Ali	Prof. Dr. Saad Ahmed Qazi	Muhammad Talha Ali
		2 EE-20099 Ramisha Malik		
		3 EE-20107 Minza Arshad		
		4 EE-20118 Rimsha Ghayaz		

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23	Design and Development of a Myoelectric Prosthetic Arm Control System	1 EE-20104 Arhamullah Iodhi	Mr. Muhammad Uzair Khan	-
		2 EE-20125 Taha Siddiqui		
		3 EE-20092 Muhammad Osama Wasim		
		4 EE-20136 Muhammad Abdullah Shabbaz		
24	Grid-Integrated Energy Storage Plan For Distributed Generation Network	1 EE-20101 Sohaima Abbasi	Dr. Beenish Sultana	
		2 EE-20098 Kausar Fatima Khan		
		3 EE-20162 Rida Fatima		
		4 EE-20257 Shayl Farooqi		
25	Design a Distance Relay Algorithm for 132kV Transmission Line Towards Local Solution	1 EE-20121 Ayesha Mateen	Dr. Abdul Ghani Abro	
		2 EE-20119 Naveera Siddiqui		
		3 EE-20115 Kulsoom Shakeel		
		4 EE-20108 Amena		
26	Evaluating Transient Recovery Voltage (TRV) in Power Systems: Breaker Analysis and Mitigation Strategies	1 EE-20110 Faizan Ali Sarfaraz	Dr. Muhammad Mohsin Aman	
		2 EE-20116 Syeda Aiman Asim		
		3 EE-20254 Khizer Adnan		
		4 EE-20253 Fawad Khan		
27	Customized Robotic Arm Development For Packaging Industry	1 EE-20124 Muhammad Tabish	Dr. Riaz Uddin	
		2 EE-20123 Rameez Khan		
		3 EE-20095 Saad Ullah Khan		
		4 EE-20109 Huzaifa Aslam		
28	Modelling of VAWT(Vertical Axis Wind Turbine)with Grid integrated Wind Energy System Design	1 EE-20122 LAIBA AWAN	Ms. Aiman Najeeb Mr. Muhammad Rashid Hussain	
		2 EE-20097 RUF AIDA AHMED		
		3 EE-20117 UROOFA RIZWAN		
		4 EE-20132 WISHMA NAFES		
29	Design and Development of smart protection system for transformers using IoT	1 EE-20112 Muhammad Bilal	Dr. Muhammad Ali Memon	-
		2 EE-20093 Syed Meesum Zaidi		
		3 EE-20126 Muhammad Ahmed Siddiqui		
		4 EE-20016 Muhammad abdullah kha		
30	Designing and development of control logic and HMI for welding robot	1 EE-20114 Aliyan Siddiqui	Mr. Nabeel Fayyaz Syed Muhammad Haris	
		2 EE-20130 Faham Zafar		
		3 EE-20139 Syed Abdul Razzaq		
		4 EE-20135 Muhammad Hammad uddin		
31	Optimising K-means clustering algorithm for edge-computing based deployment of Non-Intrusive Load Monitoring (NILM)	1 EE-20111 Muhammad shawaiz khan	Mr. Muhammad Hassan ul Haq	
		2 EE-20096 Alizey nadeem		
		3 EE-20208 Masooma		
		4 EE-20103 Eeman Ejaz Khokhar		
32	Designing an Algorithm for the Differential Protection of a HV Busbar	1 EE-20129 Muhammad Hunain	Dr. Abdul Ghani Abro	
		2 EE-20138 Muhammad Wasiq Shahid		
		3 EE-20113 Muhammad Daniyal		
		4 EE-20238 Muhammad Ashar Zain		
33	Condition-Based Monitoring: Smart Sensor Node Design for Industrial Motor Health Monitoring	1 EE-20077 Hammad Bin Irfan	Prof. Dr. Saad Ahmed Qazi Dr. Majida Kazmi	
		2 EE-20075 Fatima Iqbal		
		3 EE-20085 Shaharyar Haider		
		4 EE-20100 Javeria Adeel		

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34	Design of an intelligent algorithm for CPAP machine to treat sleep apnea patients	1 EE-20322 Hanzila Muhammad Farooqui	Mr. Muhammad Uzair Khan Dr. Riaz Uddin (Co-supervisor)	
		2 EE-20324 Muhmamad Basim Ali		
		3 EE-20158 Hashir Waqar		
		4 EE-20145 Umar Ahmed		
35	Implementation of power system state monitoring using Phasor Measurement Unit (PMU) on FPGA	1 EE-20152 Rida Khalid	Dr. A R Javaid Shaikh	
		2 EE-20163 Javeria Arif		
		3 EE-20131 Huda Saleem		
		4 EE-20314 Hiba Naeem		
36	Design and Development of an Ocean Wave Energy Conversion System(OWECS) for Sustainable Power Generation	1 EE-20168 Aisha Shaikh	Mr. Najia Naveed Faizan Ahmed Faiz	
		2 EE-20146 Muhammad Okkashah Ghouri		
		3 EE-20151 Saad Bin Saeed		
		4 EE-20165 Irsa Sarfaraz		
37	Design and Development of a Commercial Single-Axis Solar Tracking System	1 EE-20180 Abdul Wahab Sultan	Dr. Muhammad Mohsin Aman Ahmed Ashraf	
		2 EE-20179 Mubashir Maqsood		
		3 EE-20194 Syed Sajjad Ali		
		4 EE-20315 Kawish Hisam		
38	AI-Driven Active and Reactive Load Forecasting for Efficient Grid Management	1 EE-20160 Jazeba Naveed	Mr. Shariq Shaikh Dr. Danish Mahmood	
		2 EE-20164 Laiba Inam Khan		
		3 EE-20167 Aneeqa Nasir Ishaqui		
		4 EE-20170 Maryam Intekhab		
39	Estimating Power Flow directions using Data-Driven Approach in the presence of Renewable Energy System	1 EE-20147 Furqan Ali	Mr. Shariq Shaikh MR. MUHAMMAD ALI AKHTAR	
		2 EE-20166 Maham Shafiq		
		3 EE-20144 Fiza Naz		
40	Development of a Cost-Effective and Reliable 33kV Distribution Network with Emphasis on Transformer and Conductor Selection	1 EE-20161 Areeba Zehra	Dr. Raja Masood Larik	Mr Zahid Asad
		2 EE-20316 Agha Asim Hussain		
		3 EE-20019 Ehtesham Lodhi		
		4 EE-20140 Sufyan Riaz Ahmed		
41	Development of AI Technique based model for P-Loss and Q-Gen/Loss Estimation in Transmission Networks under Contingency Conditions	1 EE-20134 Noor Ul Ain Fatima	Mr. Shariq Shaikh	
		2 EE-19309 Ali Asghar		
		3 EE-20325 Mohammad Rauf Arshad		
		4 EE-20197 Farwa Zainab Alam		
42	Extended Design of 5-axis CNC Machine for Industrial Applications	1 EE-20141 Kinza Pervez	Dr. Riaz Uddin	
		2 EE-20302 Muhammad Saad Bhatti		
		3 EE-20155 Hafsa Iqbal		
		4 EE-20154 Summaiya Mubashir		
43	Development of a test bench and deep.learning based model for fault detection	1 EE-20142 HUNZA SALEEM	Prof. Dr. Saad Ahmed Qazi Dr. Majida Kazmi	
		2 EE-20069 Syed Intizar Hussain		
		3 EE-20188 Rehlish Afroz		
		4 EE-20143 Naveen Khan		
44	Time synchronised measurement of frequency for visualisation of disturbance propagation in the electric grid	1 EE-20157 Muhammad Haris	Mr. Muhammad Hassan ul Haq	
		2 EE-20148 Aijaz Ali		
		3 EE-20177 Muhammad Aun Ahmed		
		4 EE-20181 Ali Raza		

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45	Implementation of an Overcurrent Protection Algorithm on an appropriate FPGA Platform	1 EE-20187 Mazina Rahman	Dr. A R Javaid Shaikh	
		2 EE-20186 Fahama Sheikh		
		3 EE-20189 Sajda Manzoor Ali		
		4 EE-20232 Taimoor Yousuf Chaudhary		
46	Development and Implementation of Real-Time Phasor Measurement Unit (PMU) Data Analysis Algorithms for Enhanced Power Grid Monitoring and Control	1 EE-20225 Hafiz M Aliyan Warsi	Dr. A R Javaid Shaikh	
		2 EE-20210 Sarah jamil		
		3 EE-20207 Eisha aziz		
		4 EE-20171 Ayesha Waqar		
47	Design of a bidirectional converter and its control for V2G (vehicle-to-Grid) Energy transfer	1 EE-20182 Ubrud Anis	Ms. Aiman Najeeb	
		2 EE-20178 Muhammad Usman Ghazanfar		
		3 EE-20190 Muhammad Daniyal Khan		
		4 EE-20195 Fatima Batool		
48	Autonomous Electric Water Pump and Quality Analysis	1 EE-20211 Taseen Bin Shabbir	Ms. Shahnaz Tabassum	
		2 EE-20105 Rana Muhammad Umer Aftab		
		3 EE-20326 Saad Ullah Saeed		
		4 EE-20191 Saad Imran		
49	Data driven approach for power system state estimation under high penetration level of solar energy*	1 EE-20213 Abdullah Noor	Mr. Shariq Shaikh	
		2 EE-20218 Hammad Khan	Sir Danish Mahmood	
		3 EE-20214 Syed Muhammad Nauman bin Khalid bin Waleed		
		4 EE-20223 Sufwan Muhammad Muhammad Taqi		
50	Solar irradiance prediction using Deep Neural Network (DNN) and Support Vector Machine (SVM) and PV output prediction using Analytical Approach of 25MW PV plant."	1 EE-20206 Muhammad Salman	Mr. Talha Javed Soleja	
		2 EE-20212 Muhammad Hassan Mughal	Ali Akhtar	
		3 EE-20219 Daniyal Khan		
		4 EE-20317 Muhammad Azeem		
51	Real-Time Load Consumption Monitoring and Conservation Dashboard: A User-Centric Design	1 EE-20176 ZIAUDDIN	Dr. Umbrin Sultana	
		2 EE-20201 Saim Ahmed Siddiqui		
		3 EE-20209 Zoya Binte Zeeshan		
		4 EE-20215 Soman Ali Khan		
52	Design and Implementation of High Gain Boost Converter with Voltage-Mode Control	1 EE-20198 Hafsa Nadeem	Mr. Muhammad Uzair Khan	
		2 EE-20184 Shumaila Noor		
53	Prototype Of Magneto Hydro Dynamic Generator	1 EE-20216 Muhammad Abdullah Rana	Mr. Adnan Ali	
		2 EE-20221 Hayat Muhammad Khan		
		3 EE-20217 Muhammad Ahmed		
		4 EE-20224 Syed Areeb-ur-Rehman		
54	Design and comparative analysis for protection system of 33KV distribution network of K-Electric	1 EE-20220 Hafiz syed Omais ur rahman jafri	Dr. Raja Masood Larik	Zahid Asad
		2 EE-20070 Syed Ahmed Ali		
		3 EE-20199 Sharia Muhammad		
		4 EE-20183 Shazma Shafqat		
55	Increasing the efficiency of solar panels by reducing temperature (Cooling Down)	1 EE-18091 Saad Ahmed	Ms. Shahnaz Tabassum	
		2 EE-18122 Muhammad Ibrahim		
		3 EE-20249 Abdul Wali Khan Sherani		
		4 EE-20172 Abdul Rafy		

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56	Design and Implementation of DC Microgrid for sustainable energy distribution	1 EE-20306 Syed Abdus Sami Ali	Ms. Shahnaz Tabassum	
		2 EE-20323 Muhammad Saad Siddiqui		
		3 EE-20321 Syed Mustafa Hussain		
57	Practical implementation of Distributed Control System (DCS) on a small scale	1 EE-20237 Yashaf Zain	Dr. Muhammad Ali Memon	
		2 EE-20243 Muhammad Ahmed Naveed		
		3 EE-20258 Muhammad Shehryar Yousufzai		
		4 EE-20120 Dua Zehra		
58	Proportional Integral (PI)-controller driven clean power Active Harmonic Filters for Micro grid and Electric Vehicles	1 EE-20305 Muhammad Saim	Dr. Abdullah Munir	
		2 EE-20247 Shariq Misbah		
		3 EE-20311 Shumas Khalid	Hafiz Muhammad Furqan	
		4 EE-20319 Maaz ul haq Farooqui		
59	Design and implementation of a Robotic arm for automated refueling system	1 EE-20252 Syed Shahmeer Mustafa	Ms. Aiman Najeeb	
		2 EE-20242 Huzaifa Ahmed Khan		
		3 EE-20255 Muhammad Tahir Malik	Dr. Riaz Uddin	
		4 EE-20256 Abdul Rehman Khan Tareen		
60	Design & Implementation of a Three Phase Current Controlled Voltage Source Inverter (CCVSI) for Renewable Energy Interfacing	1 EE-20236 Hamza Ikram Ansari	Mr. Nabeel Fayyaz	
		2 EE-20235 Irdum Abdullah		
		3 EE-20233 Muhammad Laraib Khan		
		4 EE-20248 Syed Muhammad Umer Bin Irfan		
61	Development of an Energy-Efficient BLDC Motor Control System with Integrated Power Optimization	1 EE-20241 Syed Muhammad Daniyal Ashraf	Prof. Dr. Saad Ahmed Qazi	
		2 EE-20239 Muhammad Sarim Khan		
		3 EE-20244 Muhammad Owais Khan		
		4 EE-20309 Sadaf Saeed		
62	Optimal design and dynamic analysis of hybrid power system using PSCAD	1 EE-20251 Syed Bilal shakeel	Mr. Talha Javed Soleja	
		2 EE-20231 Muhammad taha hasan		
		3 EE-20240 Irtiza iqbal		
		4 EE-20245 Adil azhar		
63	Mitigating Voltage Variations In Balochistan's Transmission Line	1 EE-20156 Malika Zaidi	Mr. Najia Naveed	Taha Suleman
		2 EE-20159 Muhammad Daniyal Naveed Khan		
		3 EE-20153 Maham Abid		
		4 EE-20137 Hassaan Ahmed		
64	SLAM EXTENSION OF SOCIAL INTERACTION ROBOT	1 EE-20173 Syed Huzaifa Ahmed	Mr. Muhammad Uzair Khan	
		2 EE-20021 Faria Azhar		
		3 EE-20313 Muhammad Taha		
		4 EE-20318 Muhammad Salah Uddin		
65	Design and development of a wearable gadget harnessing human motion for portable power generation	1 EE-20058 Humna Abid	Prof. Dr. Saad Ahmed Qazi	
		2 EE-20312 Syeda Kanza Ali		
		3 EE-20055 Daniya Abid	Qurban Ali shah (Co-supervisor)	
		4 EE-20169 Mahnoor Sarfaraz		