VIT®
Vellore Institute of Technology
(Deemed to be University under section 3 of the UGC Act, 1956)

School of Electrical Engineering (SELECT)

Vision

To offer an education in electrical engineering that provides strong fundamental knowledge, skills for employability, cross-disciplinary research and creates leaders who provide technological solutions to societal and industry problems.

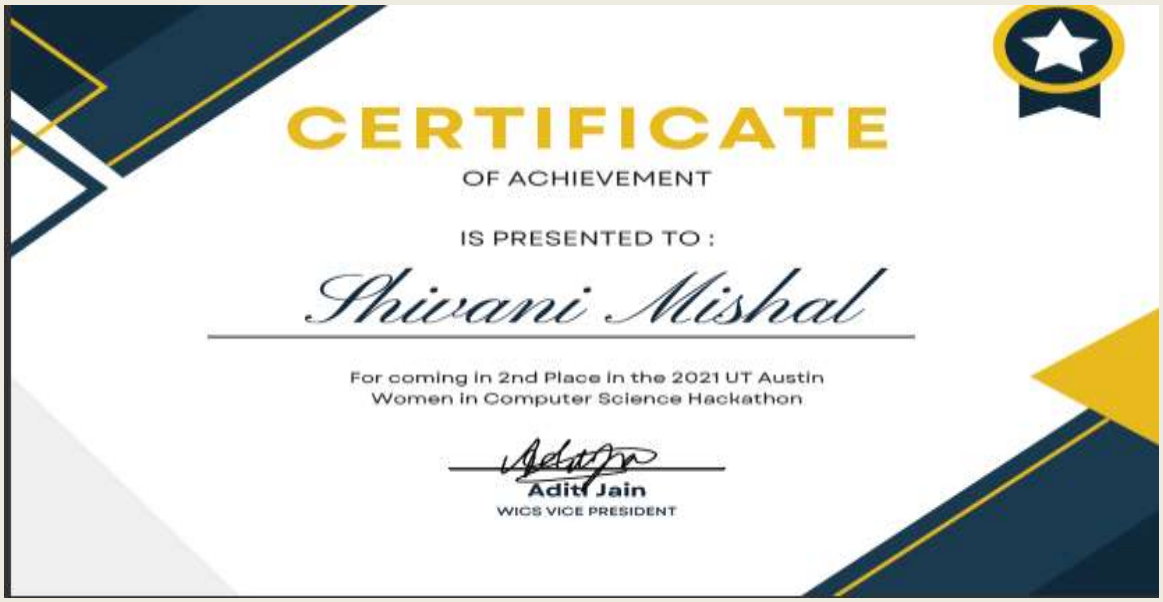
Mission

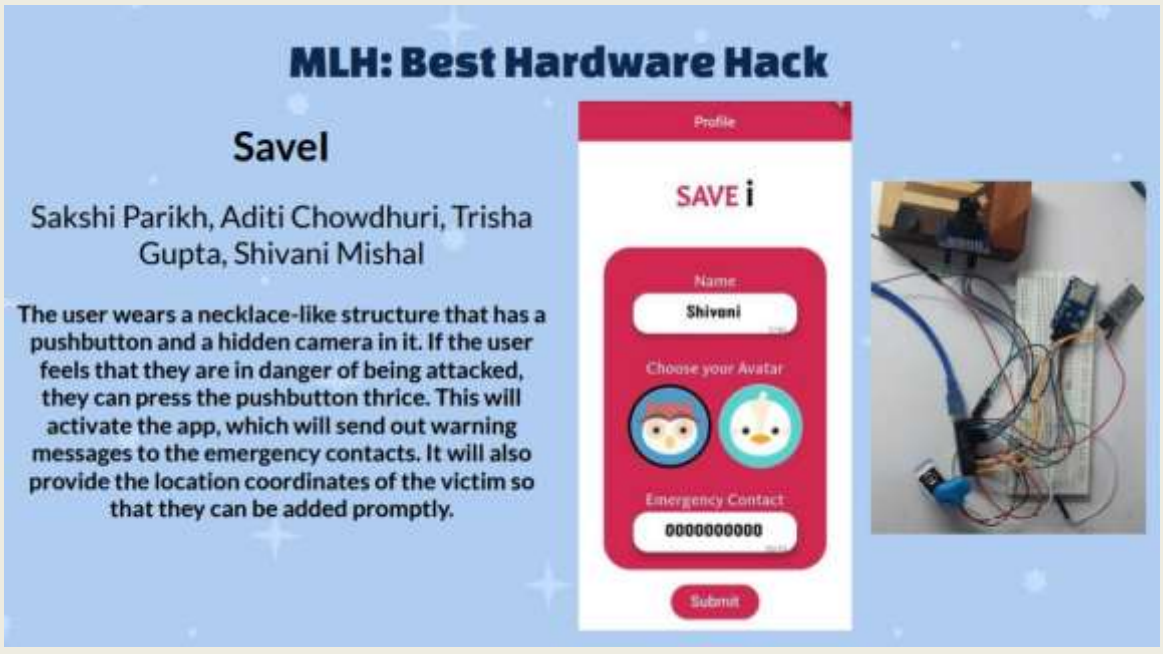
- Provide personalized experiential learning in industry sponsored labs to prepare students in electrical engineering with strong critical thinking and employability skills.
- Foster design thinking, creativity and cross-disciplinary research with highly qualified faculty to create innovators and entrepreneurs in the broad area of electrical engineering.
- Collaborate with national and international partners to provide innovative solutions to societal and industry challenges.

Student Achievements

1. Second Place in Hackathon

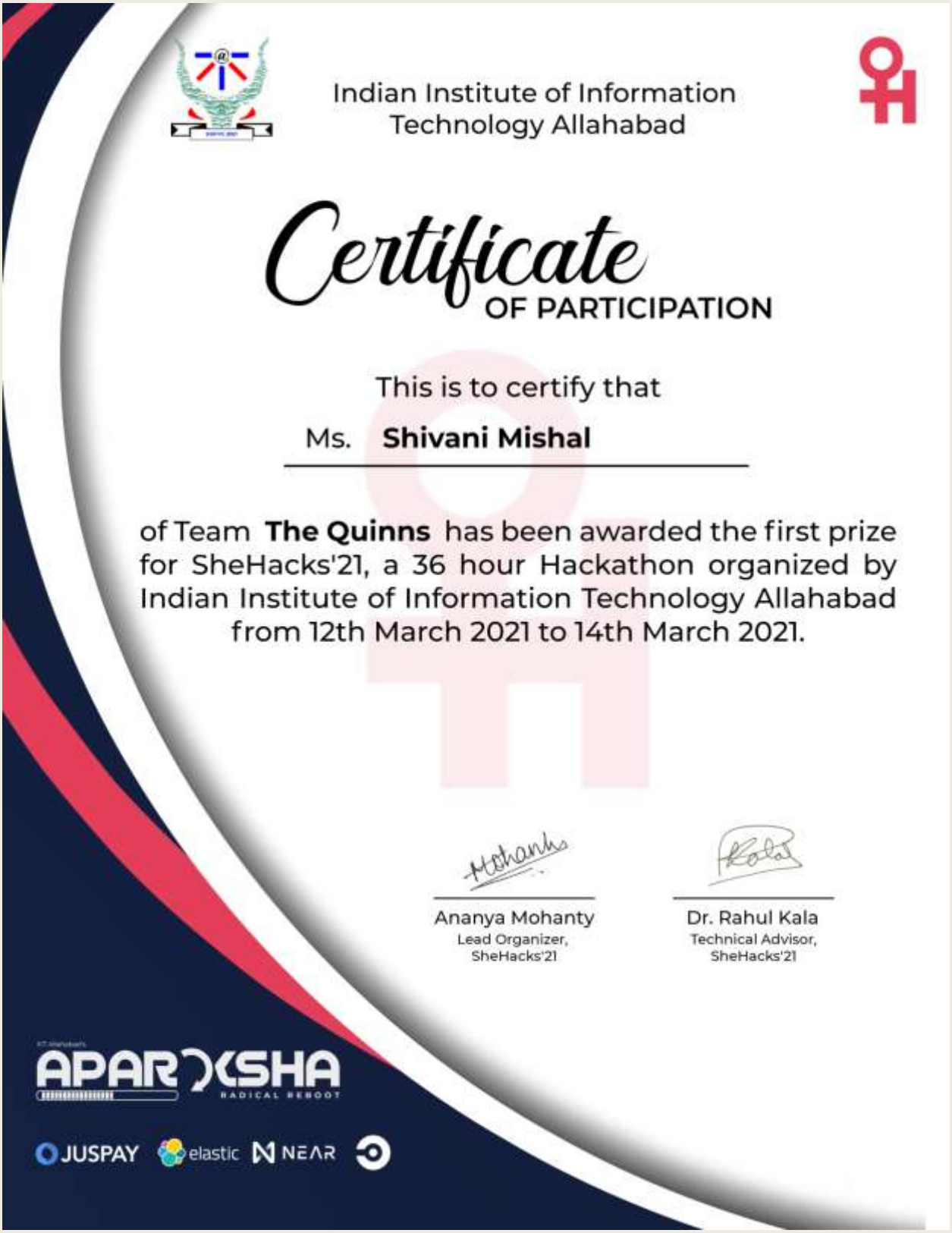
Shivani Mishal placed 2nd overall in the 2021 UT Austin Women in Computer Science Hackathon.





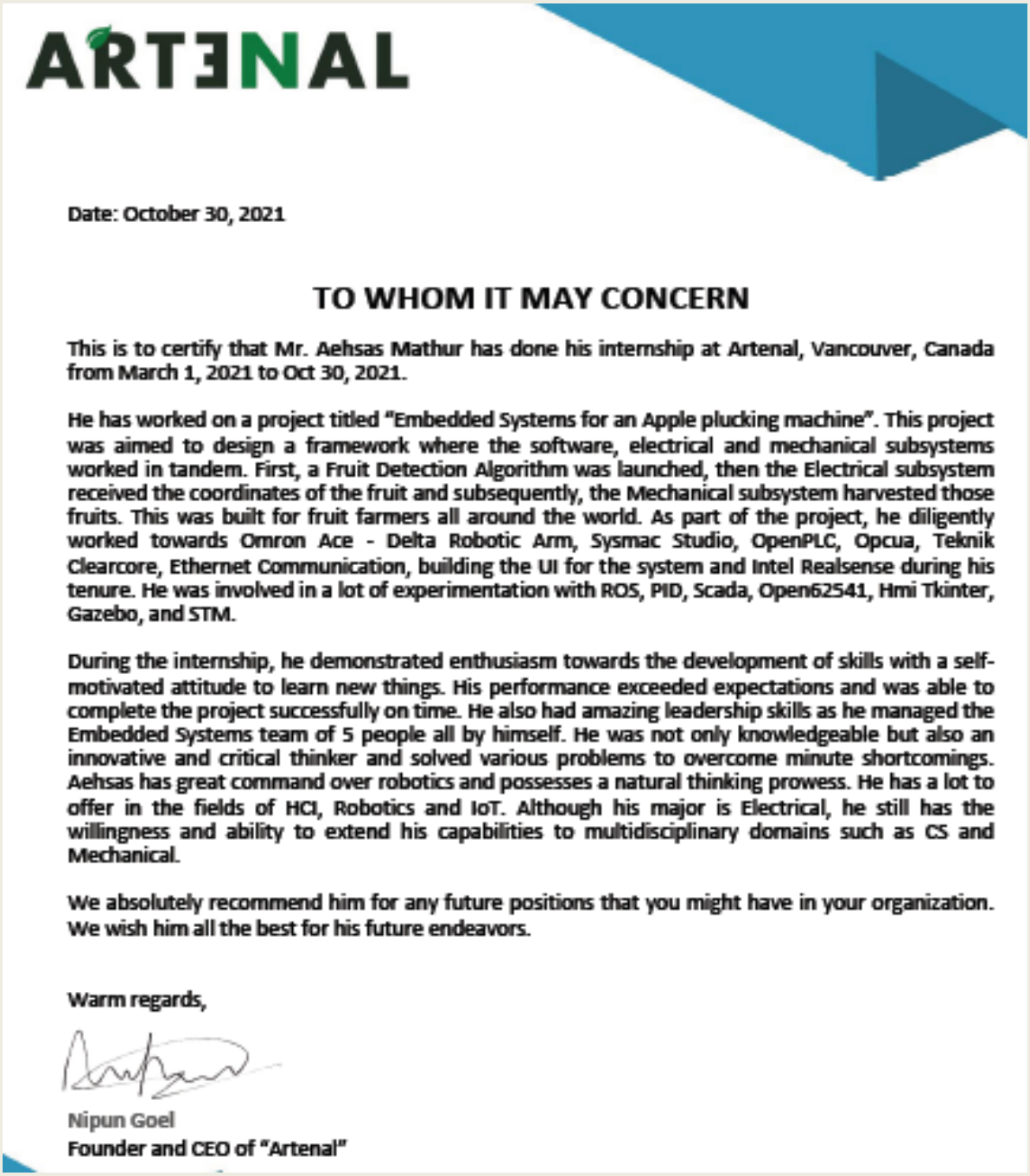
2. First Place in Hackathon

Shivani Mishal awarded first prize in SheHacks'21 Hackathon organized by IIT, Allahabad



3. Student Internship in Canada

Mr. Aeshas Mathur has done his Internship on a project titled “Embedded Systems for an Apple plucking machine at Arternal in Vancouver, Canada.



ARTENAL

Date: October 30, 2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. Aehsas Mathur has done his internship at Artenal, Vancouver, Canada from March 1, 2021 to Oct 30, 2021.

He has worked on a project titled “Embedded Systems for an Apple plucking machine”. This project was aimed to design a framework where the software, electrical and mechanical subsystems worked in tandem. First, a Fruit Detection Algorithm was launched, then the Electrical subsystem received the coordinates of the fruit and subsequently, the Mechanical subsystem harvested those fruits. This was built for fruit farmers all around the world. As part of the project, he diligently worked towards Omron Ace - Delta Robotic Arm, Sysmac Studio, OpenPLC, Opcua, Teknik Clearcore, Ethernet Communication, building the UI for the system and Intel Realsense during his tenure. He was involved in a lot of experimentation with ROS, PID, Scada, Open62541, Hmi Tkinter, Gazebo, and STM.

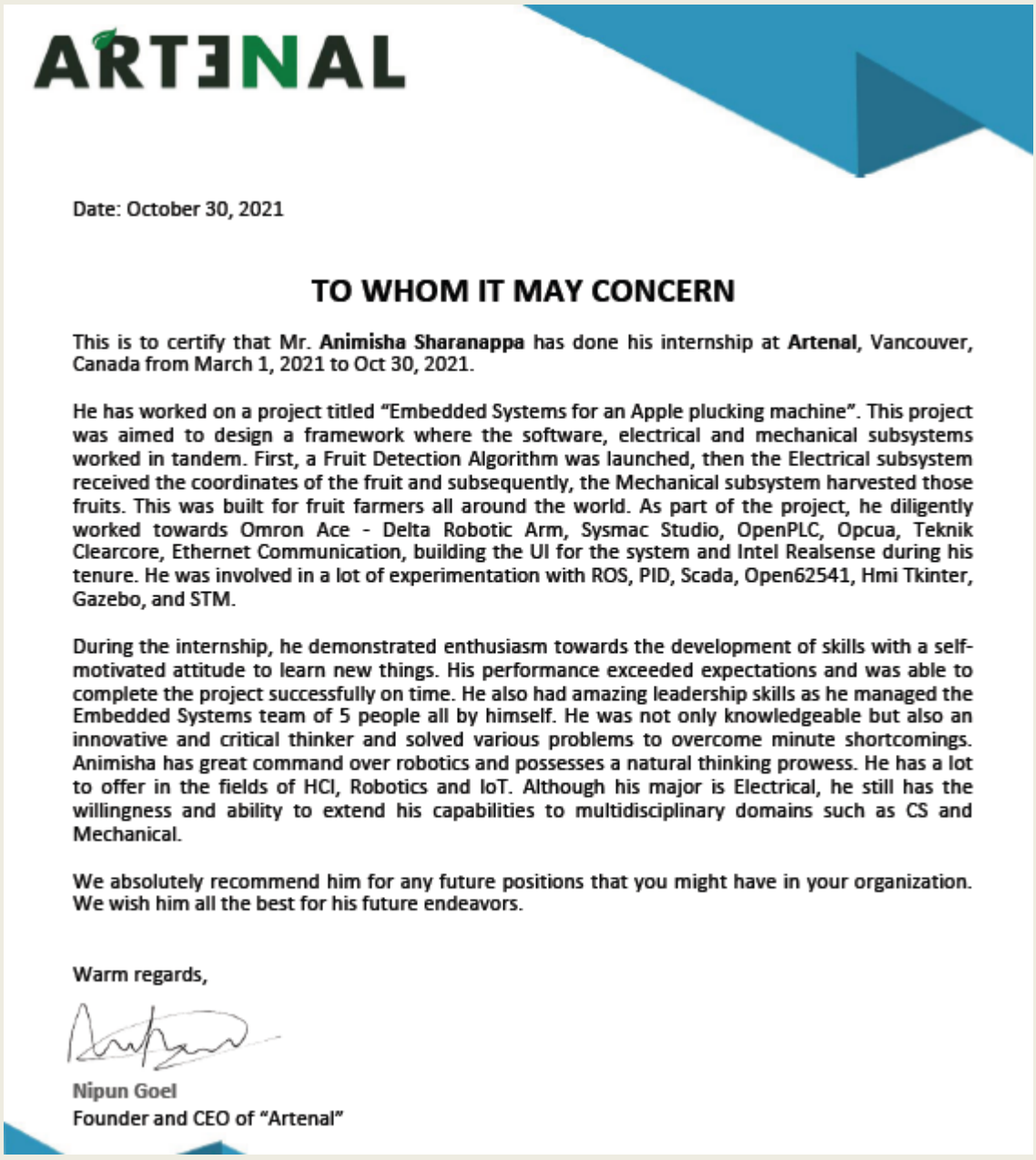
During the internship, he demonstrated enthusiasm towards the development of skills with a self-motivated attitude to learn new things. His performance exceeded expectations and was able to complete the project successfully on time. He also had amazing leadership skills as he managed the Embedded Systems team of 5 people all by himself. He was not only knowledgeable but also an innovative and critical thinker and solved various problems to overcome minute shortcomings. Aehsas has great command over robotics and possesses a natural thinking prowess. He has a lot to offer in the fields of HCI, Robotics and IoT. Although his major is Electrical, he still has the willingness and ability to extend his capabilities to multidisciplinary domains such as CS and Mechanical.

We absolutely recommend him for any future positions that you might have in your organization. We wish him all the best for his future endeavors.

Warm regards,

Nipun Goel
Founder and CEO of “Artenal”

Mr. Animisha Sharanappa has done his Internship on a project titled “Embedded Systems for an Apple plucking machine at Arternal in Vancouver Canada.



ARTENAL

Date: October 30, 2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. **Animisha Sharanappa** has done his internship at **Artenal**, Vancouver, Canada from March 1, 2021 to Oct 30, 2021.

He has worked on a project titled “Embedded Systems for an Apple plucking machine”. This project was aimed to design a framework where the software, electrical and mechanical subsystems worked in tandem. First, a Fruit Detection Algorithm was launched, then the Electrical subsystem received the coordinates of the fruit and subsequently, the Mechanical subsystem harvested those fruits. This was built for fruit farmers all around the world. As part of the project, he diligently worked towards Omron Ace - Delta Robotic Arm, Sysmac Studio, OpenPLC, Opcua, Teknik Clearcore, Ethernet Communication, building the UI for the system and Intel Realsense during his tenure. He was involved in a lot of experimentation with ROS, PID, Scada, Open62541, Hmi Tkinter, Gazebo, and STM.

During the internship, he demonstrated enthusiasm towards the development of skills with a self-motivated attitude to learn new things. His performance exceeded expectations and was able to complete the project successfully on time. He also had amazing leadership skills as he managed the Embedded Systems team of 5 people all by himself. He was not only knowledgeable but also an innovative and critical thinker and solved various problems to overcome minute shortcomings. Animisha has great command over robotics and possesses a natural thinking prowess. He has a lot to offer in the fields of HCI, Robotics and IoT. Although his major is Electrical, he still has the willingness and ability to extend his capabilities to multidisciplinary domains such as CS and Mechanical.

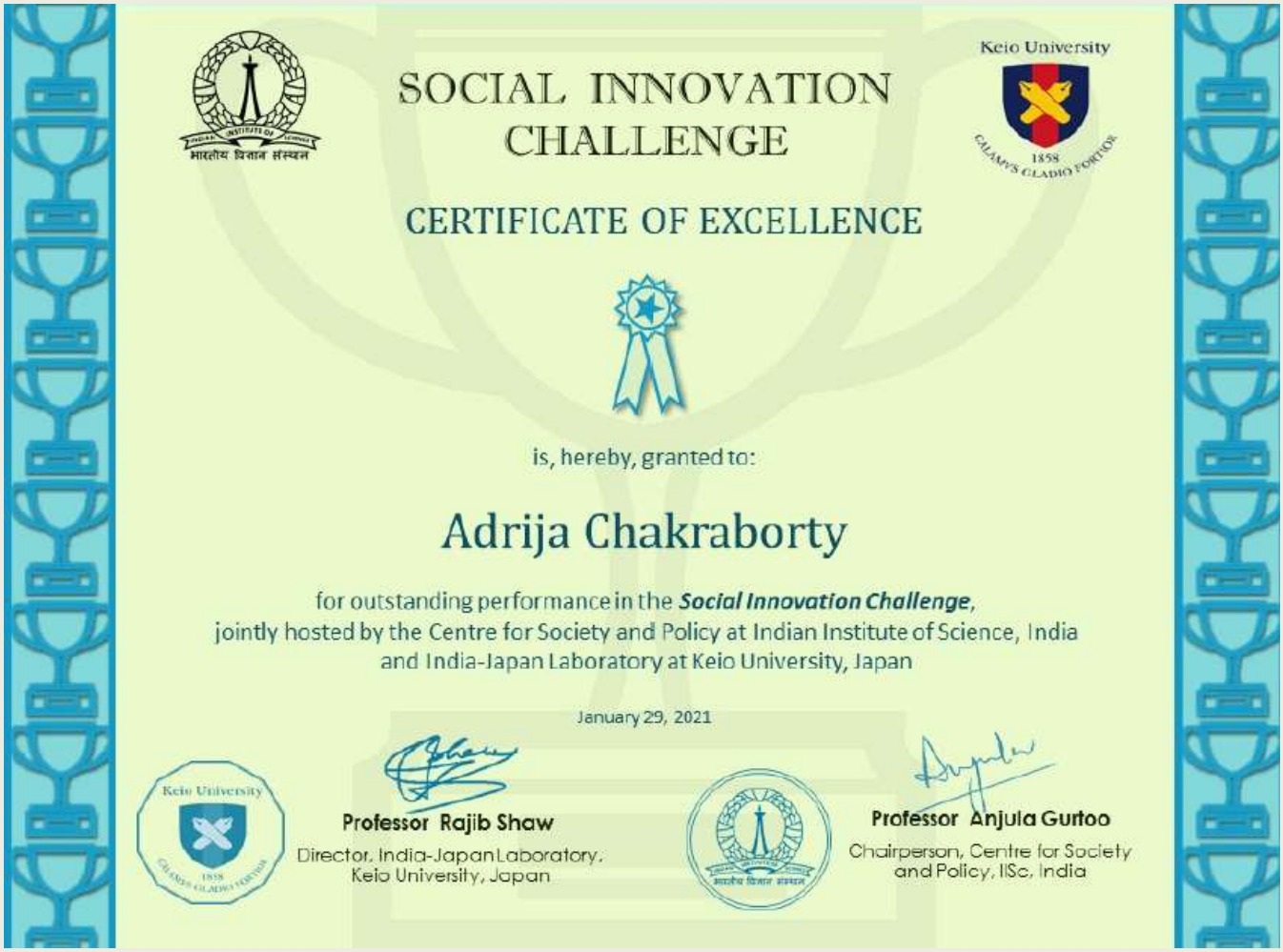
We absolutely recommend him for any future positions that you might have in your organization. We wish him all the best for his future endeavors.

Warm regards,

Nipun Goel
Founder and CEO of “Artenal”

4. Certificate of Excellence

Adrija Chakraborty has been awarded a Certificate of Excellence for outstanding performance in the *Social Innovation Challenge* on January 2021.



Top Publications
January 2021

1) Mathew A.A., Chandrasekhar A., Vivekanandan S., A review on real-time implantable and wearable health monitoring sensors based on triboelectric nanogenerator approach. Nano Energy, **IF** 16.602

2) Khasim S.R., Dhanamjayulu C., Sanjeevikumar P., Holm-Nielsen J.B., Mitolo M., A Novel Asymmetrical 21-Level Inverter for Solar PV Energy System with Reduced Switch Count, IEEE Access **IF** 3.745

3) Dhanamjayulu C., Padmanaban S., Holm-Nielsen J.B., Blaabjerg F., Design and Implementation of a Single-Phase 15-Level Inverter with Reduced Components for Solar PV Applications, IEEE Access. **IF** 3.745

4) Dhanamjayulu C., Padmanaban S., Ramachandaramurthy V.K., Holm-Nielsen J.B., Blaabjerg F. Design and Implementation of Multilevel Inverters for Electric Vehicles, IEEE Access, **IF** 3.745

5) V.K. A.S., Subramaniam U., Madurai Elavarasan R., Raju K., Shanmugam P.
Sensorless parameter estimation of VFD based cascade centrifugal pumping system using automatic pump curve adaption method, Energy Reports. **IF** 3.595

6) Senthilnathan K., Annapoorani I., Modified dual output single phase current source back end converter with resilient cyber infrastructure, International Journal of Electrical Power and Energy Systems
IF 3.588

7) Pandurangan R., Kaliannan P., Shanmugam P., Effects of Current Distortion on DC Link Inductor and Capacitor Lifetime in Variable Frequency Drive Connected to Grid with Active Harmonic Filter
IEEE Transactions on Industry Applications, **IF** 3.488

8) Babu C., Ponnambalam P., Economic analysis of hybrid Photovoltaic Thermal Configurations: A comparative study, Sustainable Energy Technologies and Assessments. **IF** 3.427

9) Ranjan K.G., Prusty B.R., Jena D., Review of preprocessing methods for univariate volatile time-series in power system applications, Electric Power Systems Research, **IF** 3.2

10) Chu S., Nakkeeran K., Abobaker A.M., Aphale S.S., Sivabalan S., Ramesh Babu P., Senthilnathan K. Influence of the Sub-Peak of Secondary Surface Plasmon Resonance onto the Sensing Performance of a D-Shaped Photonic Crystal Fibre Sensor, IEEE Sensors Journal, **IF** 3.073

11) Parthasarathy P., Vivekanandan S., An extensive study on the COVID-19 pandemic, an emerging global, crisis: Risks, transmission, impacts and mitigation, Journal of Infection and Public Health **IF** 2.447

12) Vivek P., Kumar G.S., Steephen A., Jauhar R.M., Suvitha A., Rekha M., Kowsalya M., Karunagaran N., Arunkumar R., Development of organic crystalline nature guanidinium nitrate (GuN): structural, frontier molecular orbital, optical, thermal, mechanical, theoretical and experimental SHG and Z-scan properties for NLO device uses, Journal of Materials Science: Materials in Electronics **IF**, 2.220

Top Publications
February 2021

1) Sawle Y., Jain S., Babu S., Nair A.R., Khan B., Prefeasibility Economic and Sensitivity Assessment of Hybrid Renewable Energy System, IEEE Access **IF** 3.745

2) Sarojini R.K., Palanisamy K., Inertia emulation through supercapacitor for a weak grid, IEEE Access **IF** 3.745

3) Dhanamjayulu C., Prasad D., Sanjeevikumar P., Maroti P.K., Holm-Nielsen J.B., Blaabjerg F., "Design and Implementation of Seventeen Level Inverter with Reduced Components" IEEE Access **IF** 3.745

4) Prasad D., Dhanamjayulu C., Sanjeevikumar P., Holm-Nielsen J.B., Blaabjerg F., Khasim S.R., "Design and Implementation of 31-level Asymmetrical Inverter with Reduced Components", IEEE Access **IF** 3.745

5) Thulasi S., Sivabalan S., "All-Fiber Femtosecond Mode-Locked Yb-Laser with Few-Mode Fiber as a Saturable Absorber", IEEE Photonics Technology Letters, **IF** 2.451

6) Renjini G.S., Deepa T., "Error minimization of positive output luo converter using various optimization techniques", Journal of Intelligent and Fuzzy Systems, **IF** 1.851

7) Senthil S., Ravi K., A new compilation of the micro-grid by distributed energy sources using three phase three level space vector multilevel inverter, Journal of Intelligent and Fuzzy Systems, **IF** 1.851

8) Kumar R., Al-Turjman F., Anand L., Kumar A., Magesh S., Vengatesan K., Sitharthan R., Rajesh M. "Genomic sequence analysis of lung infections using artificial intelligence technique", Interdisciplinary Sciences: Computational Life Sciences, **IF** 1.512

9) Uma Sathyakam P., Banerjee A., Mallick P.S., Waveform analysis of carbon nanotube interconnects connected to various driver/load circuits, International Journal of Electronics, **IF** 1.004

Top Publications March 2021

1) Bhatti G., Mohan H., Raja Singh R., Towards the future of ssmart electric vehicles: Digital twin technology
Renewable and Sustainable Energy Reviews, **IF** 12.110

2) Reddi Khasim S., Dhanamjayulu C., Selection parameters and synthesis of multi-input converters for electric vehicles: An overview, Renewable and Sustainable Energy Reviews, **IF** 12.110

3) Monica P., Kowsalya M., Guerrero J.M., "Logarithmic droop-based decentralized control of parallel converters for accurate current sharing in islanded DC microgrid applications", IET Renewable Power Generation. **IF** 3.894

4) Sitharthan R., Yuvaraj S., Padmanabhan S., Holm-Nielsen J.B., Sujith M., Rajesh M., Prabaharan N., Vengatesan K., "Piezoelectric energy harvester converting wind aerodynamic energy into electrical energy for microelectronic application", IET Renewable Power Generation, **IF** 3.894

5) Muthiah-Nakarajan V., Cherukuri S.H.C., Saravanan B., Palanisamy K., "Residential energy management strategy considering the usage of storage facilities and electric vehicles", Sustainable Energy Technologies and Assessments, 3.427

6) Meera P.S., Hemamalini S., "Integrated resource planning for a meshed distribution network under uncertainty", Electric Power Systems Research, **IF** 3.211

7) Iyer T.J., Raj A.N.J., Ghildiyal S., Nersisson R., "Performance analysis of lightweight CNN models to segment infectious lung tissues of COVID-19 cases from tomographic images" PeerJ Computer Science , **IF** 3.091

8) Sureshkumar A., Gunabalan R., "Design and implementation of single switch control DC-DC converter with wide input variation in automotive LED lighting", International Transactions on Electrical Energy Systems**, IF** 1.692

9) Sankarkumar R.S., Natarajan R., Energy management techniques and topologies suitable for hybrid energy storage system powered electric vehicles: An overview, International Transactions on Electrical Energy Systems, **IF** 1.692

10)Nalajam P.K., Varadarajan R., Experimental and Theoretical Investigations on Cold Metal Transfer Welds Using Neural Networks: A Computational Model of Weld Geometry, Experimental Techniques, **IF** 1.058

11) Dinaka raj S., Ezhilarasi A., Integrated Hybrid Converter Topology with Single DC Input and Simultaneous DC and AC Outputs using SHORFA Technique, International Journal of Electronics, **IF** 1.004

12) Uma Sathyakam P., Banerjee A., Mallick P.S., Waveform analysis of carbon nanotube interconnects connected to various driver/load circuits, International Journal of Electronics, **IF** 1.004

Editorial Committee

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