Project brief for E-fac Projects through PEFAA – Year 2023

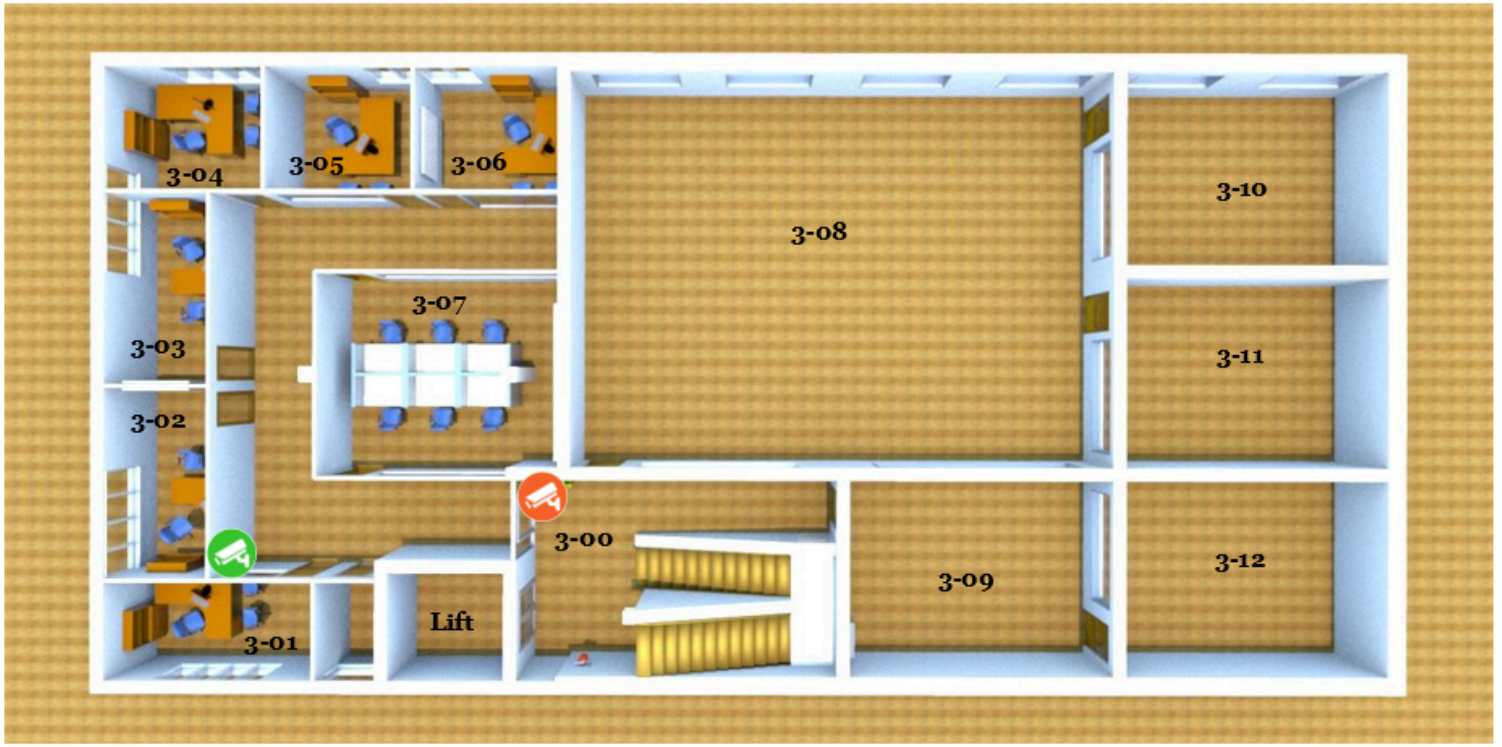
Peradeniya Engineering Faculty Alumni Association (PEFAA)	Project No & Title	E-fac/PEFAA/2023-11 Title - Computer Vision and Artificial Intelligence Laboratory	Client (Dept Head) Details	Prof. Roshan G. Ragel Head of Department, Department of Computer Engineering, Faculty of Engineering, University of Peradeniya headce@eng.pdn.ac.lk | 0773857755

1. Project Brief	The Computer Vision and Artificial Intelligence (CV&AI) Research Lab, initiated by the Department of Computer Engineering at the University of Peradeniya, is a pioneering venture aimed at advancing research, fostering innovation, and engaging in collaborative projects within and beyond the university. The lab focuses on addressing challenges in visual processing, artificial intelligence, machine learning, human-computer interaction, and intelligent systems. However, the current limitation lies in insufficient hardware resources tailored for CV and AI applications. To overcome this hurdle, the lab seeks to establish a dedicated space with state-of-the-art equipment, allowing researchers to undertake cutting-edge projects and attain accurate results. While leveraging the expertise of the department's staff and students, the lab's ultimate goal is to become a leading institute for CV and AI research in Sri Lanka.	2. Purpose/ Beneficiaries	The CV&AI Research Lab aspires to be a focal point for groundbreaking research in computer vision and artificial intelligence (CV&AI), with a specific focus on collaborative consultancy projects with industry and government institutes. Designed to facilitate high-quality undergraduate and postgraduate research, the lab aims to advance knowledge in these crucial fields. Beneficiaries include students, researchers, and industry partners, with students gaining practical experience, researchers accessing specialized hardware, and industry partners engaging in skill development and collaborative innovation. The lab's establishment not only fulfills academic needs but also aligns with the vision of establishing a premier CV&AI research institute in Sri Lanka, enhancing the global research standing of the Department of Computer Engineering.

3. Specifications, Sketches, BOQ and Estimate

Item	Total Estimated	No of Units	Unit Cost
Vision Kit	150,000	3	50,000
LIDAR sensor	200,000	2	100,000
3D Cameras: 360fly 4K	250,000	1	250,000
Thermal Imaging Camera	120,000	2	60,000
Quadcopter	600,000	3	200,000
DSCVR Headset for Smartphones	30,000	3	10,000
Andriod (For use with DSCVR headset)	100,000	1	100,000
iPhone (For use with DSCVR headset)	200,000	1	200,000
Oculus Rift Virtual Reality Headset	100,000	1	100,000
Leap Motion Controller with SDK	40,000	1	40,000
GPU Workstation with Accelerators	9,000,000	1	9,000,000
SUPER ULTRA-WIDE HDR MONITOR 49", 144Hz	400,000	1	400,000
Apple iMac 24" 2021/ M1 chip 8Core CPU/ 8Core GPU	500,000	1	500,000
Sony Alpha a6000 (Monocrome camera)	200,000	1	200,000
75-inch Smart Board	800,000	1	800,000
Camcorder with Top Handle Audio Unit	300,000	1	300,000
GoPro (HERO9 Black with All in One Pack)	150,000	1	150,000
Nvidia Jetson Mini (Mini Computer) (NVIDIA Jetson Nano Developer Kit)	240,000	3	80,000
3-side chroma keying setup	100,000	1	100,000
Accessories(Power Supplies, wires & cables, sensors,etc.)	100,000	1	100,000
Total	**13,580,000**		

3rd Floor of the Department of Computer Engineering



3-00	Landing
3-01	*Lecturer's Room*
3-02	*Lecturer's Room*
3-03	*Lecturer's Room*
3-04	*Lecturer's Room*
3-05	*Lecturer's Room*
3-06	*Lecturer's Room*
3-07	*PG Students' Room*, with working space and storage for six.

3-08	ESCAL Makerspace
3-09	Technical Officer
3-10	*Reserved for Computer Vision and Artificial Intelligence Laboratory (Partitions will be removed to have combined space)*
3-11	
3-12	

4. Expected date of completion & priority level	November 2024 /High	5. Signature of Client & Date	 30 Nov 2023
6. Dean's recommendation		7. Dean's comments on non-availability of Govt. funds	NO GOSL Funds
8. Donors of the project		9. Donor's contact details	
10. PEFAA Coordinator		11. Remarks	
12. Date of project commencement and completion		13. Actual Expenditure	