2025 EECMS Summer Internship Application Form

Main Supervisor	Dr. Nimalika Fernando
Other supervisors (if applicable)	Dr. Siavash Khaksar, Dr. Lakmal Rupasinghe
Project Title	Remote Real Time Vital Health Monitoring based on WebEx Telehealth platform
Student location(s) for the project	Project Lab in 207 or ICP
Duration of project	Eight weeks
Project Description	Telehealth has increased in prevalence and use since the COVID-19 pandemic, resulting in an increase in functions associated with telehealth platforms. Telehealth appointment calls are typically linking patients and medical professionals in multiple locations. A key challenge of telehealth and service platforms is obtaining vital signals of the patient (such as blood pressure) during an appointment in real-time while the patient is in a remote location, away from the medical team. The patient's health vitals provide essential information to the medical team when diagnosing and treating the patient. Vital health signs not being able to be ascertained by the doctor during the call impacts the service. Handling vital health data remotely requires specific steps and protocols. There are previous solutions handling remote health data, although none work alongside a real-time telehealth call. The proposed application aims to bridge the gap between remote real-time vital health monitoring and telehealth calls. WebEx platform is to be used as the base platform as it platforms offer several integrated supports for remote communications, such as establishing a video communication, while the platform is open to integrating web-based solutions and communication via different protocols as well. This will allow a telehealth call to take place anywhere and relevant patient vital health data to be transmitted to the healthcare professional. The application will be built and designed for use alongside the WebEx platform to allow a telehealth call to take place on the platform and the handling of vital health data to be conducted by the application. This application will have two components, one on the doctor's side and one on the patient's side. Reading, displaying, and storing the data from the sensors will be incorporated into the application. The patient's side will

	transmit the data, while the doctors' side will store and display the data to the professional. The team work closely with Cisco where necessary to access backend architecture information. While data transmitting, receipt and preparation for the health care professional via visualization are key functions of the system, nonfunctional- needs such as maintaining the security of the data as per Australian health standards, the efficiency of data transmission, and enabling the user to get effective service via user-centric human-computer interfaces are extremely important nonfunctional requirements of the system. The summer internship is intended to integrate nonfunctional requirements into the core system.