



Project Brief: Data Science Internship with PUSPADI

Subject discipline: Biomedical Engineering, Imperial College London

Length of internship: 2 Months

Organization background:

PUSPADI is committed to providing high quality prosthetic legs, mobility aids and wheelchairs to people with disabilities in Indonesia.

Supporting more than 4,900 people with physical disabilities, PUSPADI provides rehabilitation to people with physical disabilities and empowering them through advocacy, educational and training opportunities.

Project objectives:

- Develop a system to facilitate the cost estimation of the prosthetic devices for new clients and simplify the management and data handling.

Key internship activities:

- Access and securely store the data in an encrypted format.
- Organize and store the data in a suitable format for further analysis.
- Analyze current data to identify patterns and relations between the characteristics of the patients and the costs associated with the prosthetic devices.
- Train a machine learning model to automatically estimate the cost of the device for new patients based on historical data.
- Develop a tool with a simple user interface to facilitate the interaction between the results of the model and PUSPADI team.

Useful resources:

In order to ensure the data integrity and security, [VeraCrypt](#) was used to securely store and encrypt the data provided by PUSPADI Bali.



Python was used as the main programming language to develop the model and the user interface.

SQLite was used to store and manage current and future data.