Daffa Budiman

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https://www.linkedin.com/in/daffabudiman/

WORK EXPERIENCES

PT. Agrividia Solusi Nusantara

Mechanical and Electrical Engineering Intern

Dec 2023 – Feb 2024

- Created a prototype of conveyor system for palm fruit sorting using **shapr3d**, **3D printer**, **Arduino** with a tight deadline 1 month and 2 engineers.
- Created a full-size conveyor system for palm fruit sorting, integrating mechanical and electrical circuits for seamless operation and 5 engineers.
- Programmed **Arduino** for weight sensor and configured **PLC** for 3-phase motor control and hopper (using pneumatic) control with deadline 2 month.

PT. Cabot Indonesia

Reliability and Maintenance Intern

Mar 2021 – Jul 2021

- Performed detailed 3D designs of pipe using **Solidworks** and conducted **Thermo-Structural Analysis** using **Ansys**.
- Conducted a comprehensive analysis of the effects of adding bellows to the inlet air pipeline at the combustion chamber.

EDUCATIONS

Bandung Institute of Technology

Bachelor of Mechanical Engineering

Aug 2017 – Aug 2023

- Completed Bachelor of Mechanical Engineering with a GPA of 3.13/4.00,
- Developed a final project titled "Development Control System of Lower Limb Exoskeleton for People with Paraplegia", Implemented comprehensive control algorithms using **PID** and **Arduino**, resulting in a significantly improved user experience with the exoskeleton. This project improves problem solving, mechanical engineering, mechatronics, and mechanical design skills.

ORGANIZATIONS

Red Container Karting Team (RCKT ITB)

Head of Chassis Department

Jan 2020 – Dec 2020

- Performed **condition-based maintenance** on kart parts, involving repair or replacement as needed.
- Utilized technical documentation to ensure precise and effective repairs.
- Led the team to make kart parts with limited materials and tools such as engine mounting and shifter rod using **hand grinding, drilling, and welding machine.**

Koperasi Asrama Mahasiswa BG ITB

Head of the Kinship Bureau

Feb 2019 – Oct 2020

- Created total 10 programs to improve internal relationships between members and **achieved 80%** success rate of the programs.

Himpunan Mahasiswa Mesin ITB (HMM ITB)

Staff of Competition Division

Sep 2019 – Feb 2020

- Updated the competition list on the website every 2 weeks and **achieved 90%** performance to update the list.
- Organized and facilitated a competition seminar focused on sharing experiences to boost enthusiasm, successfully attracting a minimum of 50 participants.

CERTIFICATIONS & TRAINING

- **Ms Office for Working Environment** Mar 2024
- **Inventory Management Strategy for Manufacturing Companies** Mar 2024
- **TOEFL Prediction Online Test Score 540/677** Mar 2023
- **CSWP - Certified SOLIDWORKS Professional** Dec 2020
  The certification for **Mechanical Design** at the level of PROFESSIONAL (C-2QYV3ZN657).
  Links all certifications: https://drive.google.com/drive/folders/1dR5lCjrMAiXg4le0Gh-1U_EqUa-I6lwp?usp=sharing

PROJECTS

- **Development of Front Car Seat CATIA (2024)**
  Role: Created new front car seat design using **CATIA**, this design to facilitate the transformation of front car seats into beds by detaching their bases.
  Skills: 3D Design, CATIA.
- **Development of Personal Portfolio Website** daffabidamen.github.io **(2024)**
  Role: Created website include introduction, journey experience, and projects of Daffa Budiman using **github pages**.
  Skill: HTML (Website Programming), CSS (Website Programming), JS (Website Programming)
- **Development Prototype and Full-size Machine of conveyor system for palm fruit sorting. (2023)**
  Role: Add some improvement in adding weight sensor, proximity sensor, and some various mechanical constraint as position of weight sensor, proximity sensor, and design of hopper and scrapper.
  Skills: Shapr3D (3D modelling), **C++** (Arduino Programming), **PLC** (Arduino Programming), **Ms Office** (Progress Report).
- **Development Control System of Lower Limb Exoskeleton. (2023)**
  Role: Improved user experience, the Exoskeleton can be operated by one operator (Previous exoskeleton must be operated by minimum two operator), created new system of Exoskeleton that just 1 battery needed to be operated (Previous exoskeleton needed 2 battery for control system and motor system), created new control system box and motor shield case using **Solidworks** and **3DPrint.**
  Skills: Solidworks (3D modelling), **C++** (Arduino Programming), **MATLAB** (Analysis Control System), **Ms Office** (Progress Report), **KiCad** (PCB Modelling), **3D Printing**.
- **Thermo-Structural Analysis of Pipeline outlet combustion chamber at 812℃. (2021)**
  Role: Created 3D models of pipe using Solidworks, and analyzed using Ansys to created mesh and added constraint and environtment for simulated the models.
  Skills: Solidworks (3D modelling), **Ansys** (Thermal Analysis Simulation), **Ms Office** (Progress Report).

Portfolio of Daffa Budiman

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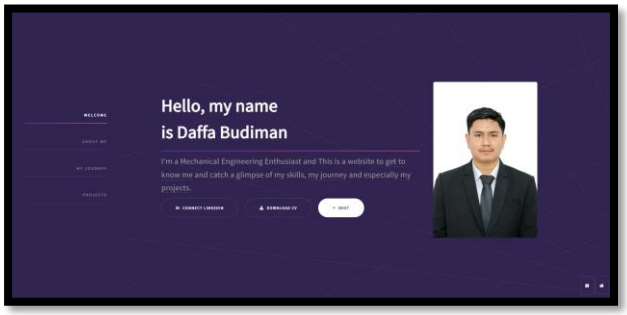
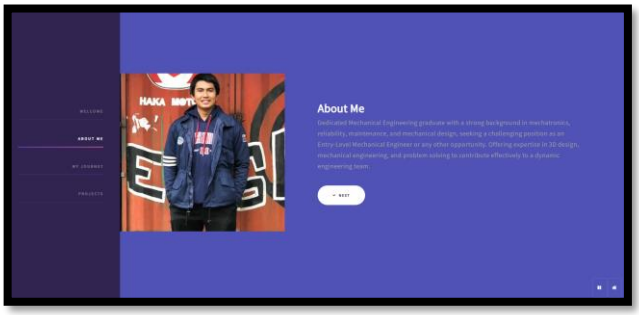
Development of Personal Portfolio Website daffabidamen.github.io (2024)





What?

A website to introduce Daffa Budiman include experience and projects.

How?

Used github pages as hosting website that used HTML, CSS, and JS.

Result

Delivered a responsive website featuring a clean design and intuitive navigation.

Development Prototype and Full-size Machine of conveyor system for palm fruit sorting. (2023)

What?

An automation machine of palm fruit sorting.

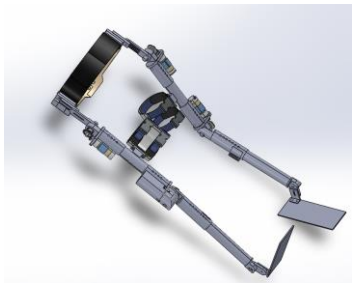
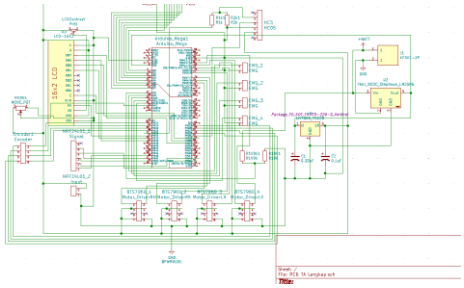
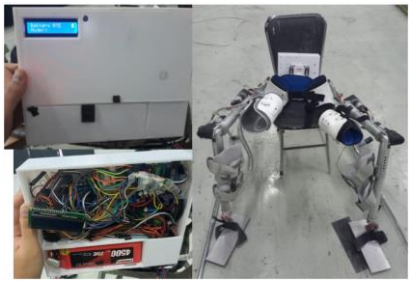
How?

Create prototype small scale using shapr3d (3D Design), rapid prototyping (3D Printer), Arduino, Camera, Weight Sensor, and Proximity Sensor. And after prototype works and validate, next create full size machine with adding more electrical component such as PLC, 3 Phase motor, etc.

Result

Successful delivery of all project milestones ahead of schedule, meeting the satisfaction of stakeholders and supervisors.

Development Control System of Lower Limb Exoskeleton. (2023)

What?

Lower-limb exoskeleton as a rehabilitation device for paraplegic patient.

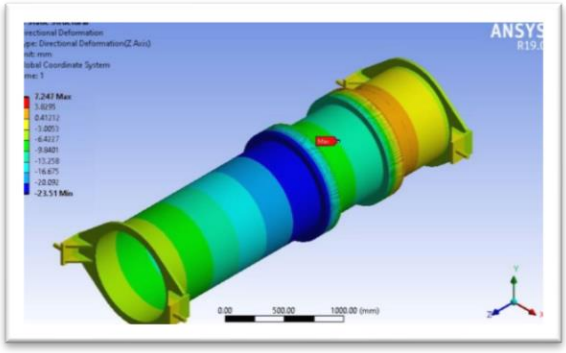
How?

Created 3D model Exoskeleton using Solidworks, and control system using Kicad. Utilized machine and rapid prototyping to create Exoskeleton. Created new schematic to use only 1 battery to operate exoskeleton.

Result

Reduced 50% total weight and 50% dimension of control system. Improve user experience that exoskeleton can be operated by 1 person.

Thermo-Structural Analysis of Pipeline outlet combustion chamber at 812°C. (2021)



What?

The pipeline outlet combustion chamber has failed and requires replacement and analysis.

How?

Created a detailed 3D model using Solidworks, applied meshing and constraints for simulation using ANSYS.

Result

Bellows compressed 30 mm and the stress reached 141 MPa, with a Safety Factor (SF) of 1.58 ensuring reliability.