Hitesh Dialani

MSc in Electrical Engineering

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HDialani

About Me

Drawing from my experience in fast-paced environments, I have honed my skills in meeting tight deadlines and thriving in dynamic situations. I am driven by forward-thinking workplaces that allow me to leverage my abilities, and my keen interest lies in the field of energy efficiency. Specifically, I am deeply passionate about using my expertise to contribute to the development of sustainable products and processes that prioritize efficiency and cost-effectiveness.

Education

- **Masters Electrical Engineering** *Sep 2021–present, at TUDelft.*
  - Specialization: Power electronics and motors
  - Thesis: Dual-side control for highly efficient wireless power transfer
  - Relevant courses: Analog circuit fundamentals, Control of electrical drives, High voltage DC
  - Expected graduation date: Aug-2023
- **Bachelor Electrical Engineering** *Sep 2017–July 2020, at TUDelft*
  - Thesis: Amplifier design for implementation of motional feedback in a bass loudspeaker
- **VWO Science & Technology** *Sep 2011–July 2017, at Colegio Arubano*
  - Courses: Physics, Biology, Chemistry, Math B, Math D

Experience

- **Full-time Power train engineer** *Sep 2020–Sep 2021, Formula student team delft (Dreamteam).*
  - Task: Responsible for motor controller hardware
  - Skills learned: Design the entire motor controller PCB using Altium
  - Skills learned: System level integration between Software/Wiring/Mechanical/PCB
  - Most proud: Successfully integrating the first ever custom motor controller in formula student delft
- **Part-time Electronics engineer** *Apr 2019–Sep 2020, Formula student team delft (Dreamteam).*
  - Task: Test and debug PCBs and Low voltage system
  - Skills learned: Making test plans for PCBs
  - Most proud: Successful in troubleshooting and resolving various PCB issues for others.
- **Student assistance** *Feb 2019–present at Tudelft.*
  - Task: Student assistant in multiple courses check Linkden for the full list.
  - Skills learned: Teaching students the mindset to debug hardware and software
  - Most proud: Students not only have working systems but can teach it to other students.

Extracurricular Activities

- **Head of Onderwijs en Carriers** *Sep-2020–Sep-2021, ABC Compas*
  - Head of a department with 6 members
  - Organise monthly events for over 40 members.
  - The events are to help Caribbean students learn practical skills training, such as times and financial management.

Soft Skills

- Time management
- Result oriented
- Team player

Coding

- Python: good
- C : sufficient
- Matlab : good

Languages

- English: native.
- Dutch: fluent.
- Papiamento: fluent

Tools

- Altium: excellent
- Simulink: excellent
- LTSpics: excellent

Microcontrollers

- TI C2000: sufficient
- Arduino: good
- STM32: beginner

Interest

- Fitness
- Television
- Reading

Reference

Available on request

Side projects

- NRF24L01 booster pack
  - Task: Design a wireless communication booster pack for the C2000 TMS320F28379D using the NRF24L01+
  - Status: Using it for master thesis
  - Description: Design custom PCB and C Code for this booster pack
  - Hardware : C2000 LaunchPad XL TMS320F28379D + NRF24L01+
  - Software: Code composer + Altium
- Encoder-less control of surface-mounted permanent magnet synchronous motor
  - Task: Implement encoder-less motor controller control algorithm on a PMSM motor for extra-project (15 ECTS)
  - Status: Done
  - Description: Implement encoder less control on a PMSM motor, design simulation model, and determine motor parameters.
  - Hardware : C2000 LaunchPad XL TMS320F28379D + BOOSTXL-DRV8305EVM + 2MTR-DYNO from Texas instrument
  - Software: Simulink
- Boost converter design
  - Task: Do R&D on design and program control algorithm on a boost converter
  - Status: Controls done, R&D stopped due to thesis
  - Description: Do experiments on CCM/DCM mode, component material, EMI, gate resistors inductor design, etc
  - Link: https://github.com/HDialani/Boost-converter
  - Hardware : C2000 LaunchPad XL tms320F28027F + Boost converter designed by DC Systems, Energy Conversion & Storage - TU Delft
  - Software: Simulink
- Arduino combat robot
  - Task: Built an arduino combat robot in high school
  - Status: Done
  - Description: Make a Bluetooth controlled combat robot using Arduino
  - Hardware : Arduino + more
  - Software: Arduino idle