RAGHURAM SHANKAR

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https://www.linkedin.com/in/raghuramshankar | https://github.com/raghuramshankar/resume

ELECTRICAL ENGINEER | CONTROLS ENGINEER | ELECTRONICS ENGINEER

Enthusiastic and passionate Electrical engineer with a broad set of skills applicable across varied applications within the electrical and electronics domain. Acquired leadership skills from working on various university projects and a team player with the ability to think outside the box. Well-rounded person who can look at the bigger picture and propose optimized solutions in any given situation. Flexible, persevering and innovate individual possessing the unnerving commitment to seek the ultimate truth.

EDUCATION

Master of Science, Electric Power Engineering
Chalmers University of Technology, Sweden
Bachelor of Technology, Electrical & Electronics Engineering
SASTRA Deemed University, India

SKILLS

- **Programming**: MATLAB, Simulink, C, C++, Python
- **Software**: IPG Carmaker, LTSPICE, Altium PCB, Microsoft Office
- **Online courses:** Power Electronics, Electric and Autonomous Vehicles, Lithium-ion Batteries
- **Languages**: English, German, Japanese, Tamil

RELEVANT EXPERIENCE

Chalmers Formula Student – Gothenburg, Sweden **Sep 2019 - Present**
Project Engineer
- Currently a part of a Formula Student team of 37 in the Low Voltage subgroup.
- Designed and implemented Kalman filter for localization and velocity estimation of the car.
- Designed a torque vectoring system based on linear bicycle model using MATLAB and Simulink.
- Validated design using IPG Carmaker.

SASTRA Racing Team – Thanjavur, India **Aug 2018 – Apr 2019**
Project Engineer
- Was a part of a team of 30 which built a solar powered electric vehicle.
- Designed and manufactured battery, safety systems and wiring harness of a solar powered electric vehicle.
- Stood 4th overall, bagged 2nd place in Crosspad in Electric Solar Vehicle Championship 2018.

Indian Institute of Technology, Madras – Chennai, India **May 2018 – July 2018**
Research Assistant
- Worked on a project titled “Energy Harvesting Systems”.
- Characterized and modelled a piezoelectric transducer and compared with simulations in LTPSPICE.
- Maximum power point tracking for wireless power transfer in different resistive and capacitive loads was done.

PROJECTS

Design of Permanent Magnet Synchronous Machine – Gothenburg, Sweden
- A 400V V-shaped Interior PMSM was designed and analyzed using MATLAB for automotive application.
- Completed design of machine from reference geometry for automotive applications.

Design of Electrical Drive Systems for Electrical Machines – Gothenburg, Sweden
- Modelled PMDC, PMSM and IM in d-q and α-β coordinate systems in Simulink.
- Designed PI based field oriented controllers using current & voltage model sensorless control.

Novel Multilevel Inverter – Thanjavur, India

- Design and control of two novel topologies of Switched-Capacitor based Multilevel Inverters for Smart Grid with different design and performance goals.
- Drafted and presented research paper at IEEE ISGT Asia 2019, published in IEEE Xplore.

Comparative Study of PWM and Solar Charge Controllers – Thanjavur, India

- Manufactured prototype of PWM based Solar Charge Controller and analyzed performance with a 5W solar panel using P control and Arduino as a microcontroller.
- Simulated MPPT charge controller using Perturb & Observe algorithm in MATLAB & Simulink for 300W solar panel and compared cost, size and performance with PWM charge controller.

Web Scraper

- Created a web scraper script using Python and beautifulSoup to scrape information from the steam website.
- Discounted items are stored in a spreadsheet for easy collection and access of data.

ACTIVITIES AND HONOURS AND VOLUNTEERING

- **Dean's List Merit Scholarship**, 4th Academic Year of Bachelor's, 2018 – 2019.
- **German language Certification,** A1 Level, April 2017.
- **Sanskrit – Spoken and Written,** University 2nd Rank, Nov 2015.
- Organized **Samaskrita Sammelanam,** an International Seminar on Sanskrit Language, Sept 2015.

REFERENCES

- https://github.com/raghuramshankar/resume