

Pooja Deshmukh

Lead Design Engineer, Electric Vehicles

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PROFILE

Mechanical engineer with 9 years in automotive design, specialising in battery enclosures and thermal systems for electric two- and three-wheelers. Took four vehicle programmes from concept to start of production.

PROFESSIONAL EXPERIENCE

Lead Design Engineer · 2021 – Present

VoltaRide Mobility

- Lead a 14-member team designing battery packs for three scooter platforms (2.2–4 kWh).
- Cut pack weight by 11% and cost by 9% with a die-cast enclosure and shared cell modules.
- Own DFMEA, design reviews and supplier tooling sign-off for 120 parts.

Senior Design Engineer · 2017 – 2021

Kestrel Mobility

- Designed chassis and body parts for a commuter motorcycle selling 25,000 units a month.
- Ran CAE correlation for durability tests; reduced prototype loops from 4 to 2.

Graduate Engineer Trainee · 2016 – 2017

Ironclad Auto Components

- Rotations across machining, quality and tool design for brake components.

SELECTED PROJECTS

Liquid-cooled pack for cargo three-wheeler · 2023

VoltaRide Mobility

- Pack passes IP67 and thermal runaway tests; range up 18% in hot-weather trials.

Lightweight swing-arm · 2019

Kestrel Mobility

- Topology-optimised aluminium design, 1.3 kg lighter, now in production.

PATENTS

Deshmukh, P., & Kulkarni, A. (2024). Modular battery enclosure with integrated cooling channels. Indian Patent 4xxxxx (granted).

PUBLICATIONS

Iyer, M., **Deshmukh, P.**, & Haddad, N. (2026). Revisiting lightweight battery enclosures. *Proceedings of the Asian Conference on Mechanical Systems*, pp. 730–738.

Deshmukh, P., Iyer, M., & Menon, V. (2026). Designing for lightweight battery enclosures. *International Journal of Automotive Engineering Design*, 45(8), 604–622.

Chen, L., & **Deshmukh, P.** (2026). Revisiting NVH reduction in two-wheelers. *Journal of Thermal Systems and Manufacturing*, 30(1), 757–774.

Deshmukh, P., & Mensah, K. (2025). Evidence on NVH reduction in two-wheelers. *International Journal of Automotive Engineering Design*, 34(7), 548–565.

Sato, Y., Okafor, D., **Deshmukh, P.**, & Rao, S. (2025). Revisiting additive manufacturing of fixtures. *Journal of Thermal Systems and Manufacturing*, 38(6), 161–173.

EDUCATION

M.Tech., Design Engineering · 2014 – 2016

Northern Institute of Engineering & Technology

CGPA 8.9 / 10; Gold Medal

B.E., Mechanical Engineering · 2010 – 2014

Sahyadri College of Engineering

78.6%, university rank 4

CERTIFICATIONS

- Certified SolidWorks Professional (2018)
- Six Sigma Green Belt (2019)
- Functional safety for road vehicles, foundation course (2022)

AWARDS & HONOURS

- Women in Engineering Award, national automotive engineers society (2023)
- Best Paper, Asian Conference on Mechanical Systems (2020)

TALKS & PRESENTATIONS

- Contributed talk: "Measuring crash simulation of composite panels", Proceedings of the Asian Conference on Mechanical Systems, Chennai, 2026.
- Keynote: "Scaling NVH reduction in two-wheelers", Proceedings of the Symposium on Vehicle Dynamics, London, 2026.
- Seminar: "Understanding lightweight battery enclosures", International Symposium on Automotive Engineering Design, Boston, 2025.
- Poster: "Evidence on lightweight battery enclosures", Proceedings of the Symposium on Vehicle Dynamics, Berlin, 2025.

TEACHING & TRAINING

- Guest lectures on EV battery design at three engineering colleges (2022–present)

COMMITTEES & COMMUNITY

- Judge, national student formula-car competition (2021–present)

SKILLS

Design: CATIA V5, SolidWorks, GD&T, DFMEA, DFM/DFA

Analysis: ANSYS, HyperMesh, thermal CFD, fatigue analysis

Tools: Teamcenter PLM, MATLAB, Python

Languages: English, Marathi (native), Hindi, German (A2)

REFERENCES

Available on request.