

# Niraj Pudasaini

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## Education

- 2025    📖 **Doctor of Philosophy, Computer Science** (Sep 2025 – Present), University of Colorado Boulder (CUB), Boulder, CO, USA. GPA: 4.0/4.0.
- 2020    📖 **Bachelor of Science, Electrical Engineering, magna cum laude** (Sep 2020 – May 2024), New York University Abu Dhabi (NYUAD), Abu Dhabi, UAE. GPA: 3.968/4.0.

## Publications

### Conference Papers

- 1 A. Basit, **N. Pudasaini**, and M. Shafique, “ROVER: Autonomous open-vocabulary object searching in unexplored environments using VLM-driven scene understanding,” in *Proceedings of the IEEE International Joint Conference on Neural Networks (IJCNN)*, Jul. 2025.
- 2 G. Bethala, H. Huang, **N. Pudasaini**, et al., “H2-COMPACT: Human–humanoid co-manipulation via adaptive contact trajectory policies,” in *Proceedings of the IEEE-RAS International Conference on Humanoid Robots (Humanoids)*, Oct. 2025. 🔗 URL: <https://ieeexplore.ieee.org/document/11203041>.
- 3 D. Tripathi, C. Liu, **N. Pudasaini**, Y. Hao, A. Tzes, and Y. Fang, “LAV-ACT: Language-augmented visual ACT for bimanual manipulation,” in *Proceedings of the IEEE International Conference on Autonomous Robot Systems and Competitions (ICARA)*, Equal contribution: D. Tripathi, C. Liu, Feb. 2025. 🔗 URL: <https://ieeexplore.ieee.org/document/10977578>.
- 4 **N. Pudasaini**, M. A. Hanif, and M. Shafique, “SPAQ-DL-SLAM: Towards optimizing deep learning-based SLAM,” in *Proceedings of the IEEE International Conference on Control, Automation, Robotics and Computer Vision (ICARCV)*, Dec. 2024. 🔗 URL: <https://ieeexplore.ieee.org/document/10821641>.

### Workshop Papers




- 1 **N. Pudasaini**, G. Bethala, N. Giakoumidis, A. Tzes, and Y. Fang, “Immersive social interaction with VR and LLM-assisted humanoids,” in *IEEE-RAS International Conference on Humanoid Robots (Humanoids) Workshop*, Spotlight Paper. Equal contribution: N. Pudasaini, G. Bethala, Nov. 2024. 🔗 URL: <https://www.researchgate.net/publication/394225021>.

### Preprints

- 1 C. Kohlbrenner, **N. Pudasaini**, W. Xie, A. Roncone, and N. Correll, “Egocentric tactile and proximity sensors as inductive bias for humanoid collision avoidance,” May 2026.
- 2 **N. Pudasaini**, Y. Zhang, J. Lavering, A. Roncone, and N. Correll, “FAME: Force-adaptive RL for expanding the manipulation envelope of a full-scale humanoid,” In Preparation, 2026. 🔗 URL: <https://fame10.github.io/Fame/>.
- 3 Y. Hao, G. Bethala, **N. Pudasaini**, B. Huang, A. Nguyen, and Y. Fang, “Humanoid agents for zero-shot loco-manipulation via embodied chain-of-action reasoning with multi-modal foundation models,” Equal contribution: Y. Hao, G. Bethala, N. Pudasaini, Oct. 2025. 🔗 URL: <https://arxiv.org/abs/2504.09532>.







## Teaching Experience

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- 2024  **Teaching Assistant, Object Oriented Programming**, NYUAD (Feb – May 2024). Nomination for the Times Higher Education MENA Awards, Digital/Technological Innovation category.
- 2023  **TRIO Peer Tutor**, NYU Tandon School of Engineering, New York, USA (Feb – May 2023).
- 2022  **Teaching Assistant, C++ Programming for Engineers**, NYUAD (Aug – Dec 2022).

## Awards & Scholarships



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- 2025  **Dean's and Departmental Excellence Fellowship and Dean's Future Leadership Fellowship**, CUB.
- 2024  **Excellence Research Fellowship** (Post-Graduation), NYUAD.
-  **University Honors Scholars, Magna cum laude**, NYUAD.
-  **McCall MacBain Scholarships Regional Finalist**.
-  **UAE Golden Visa**, Merit-Based Selection, Outstanding Students Category.
- 2023  **Davis Projects for Peace Grant** – establishment of an *Academic Resource Center* in Nepal.

## Academic Service

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### Reviewing



- 2026  **Reviewer**, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).
-  **Reviewer**, IEEE/CAA Journal of Automatica Sinica (JAS).

### Leadership

- 2024  **Electrical Engineering Representative**, Engineering Committee, NYUAD.
- 2022  **Co-founder**, Nepali Student Association (NSA), NYUAD.


## Skills

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- Programming  C/C++, Python, MATLAB, HTML/CSS,  $\LaTeX$ .
- Tools  ROS 1/2, PyTorch, MuJoCo, IsaacSim, IsaacLab, MoveIt, Git/GitHub, Linux.

## References

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-  Available upon request.