

Prajwal Koirala

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[LinkedIn](#) • [Google Scholar](#)

SUMMARY

Graduate student with a background in robot perception, planning, and navigation, demonstrating a dedication to cutting-edge research in autonomous systems and reinforcement learning.

EDUCATION

Cornell University, Ithaca, New York (Aug 2025 -)
PhD, Robotics.

Iowa State University, Ames, Iowa (Aug 2023 - Aug 2025)

Master of Science, Mechanical Engineering, **GPA: 4.0**

Thesis: Towards Safe And Efficient Offline Reinforcement Learning: Learning Safety Constraints And Expressive Policies Via Generative Modeling

Key Courses: (AERE, COMS, EE, ME)

- Machine Learning and Deep Learning
- Random Signals and Kalman Filters
- Linear Systems
- Computational Methods II (Data Str. & Algorithms)
- Convex Optimization
- Machine Vision

IOE Pulchowk Campus, Tribhuvan University, Lalitpur, Nepal (Nov 2017 - April 2022)
Bachelor of Engineering, Mechanical Engineering, **Score: 80.14%**

RESEARCH

Research Assistant, Coordinated Systems Lab, Iowa State University (Aug 2023 – Present)

Advisor: Dr. Cody Fleming

- Safe Robot Learning for Safety-Critical Applications
 - Offline Reinforcement Learning Algorithms
 - Learning-based Autonomous Driving/Racing Methods for F1tenth Robotic Vehicle
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PUBLICATIONS

Conference:

4. **Prajwal Koirala**, Zhanhong Jiang, Soumik Sarkar, and Cody Fleming. “FAWAC: Feasibility Informed Advantage Weighted Regression for Persistent Safety in Offline Reinforcement Learning.” *Conference on Decision and Control (CDC 2025)*. [[Link](#)].

3. **Prajwal Koirala**, Zhanhong Jiang, Soumik Sarkar, and Cody Fleming. “Latent Safety-Constrained Policy Approach for Safe Offline Reinforcement Learning.” *International Conference on Learning Representations (ICLR 2025)*. [[Link](#)].

2. **Prajwal Koirala** and Cody Fleming. “Solving Offline Reinforcement Learning with Decision Tree Regression.” *Conference on Robot Learning (CoRL 2024)*. [[Link](#)].

1. **Prajwal Koirala** and Cody Fleming. “F1tenth Autonomous Racing With Offline Reinforcement Learning Methods.” *IEEE Intelligent Transportation Systems Conference (ITSC 2024)*. [[Link](#)].

Workshop:

1. Nitesh Subedi, Adam Haroon, Shreyan Ganguly, Samuel Tetteh, **Prajwal Koirala**, Soumik Sarkar, and Cody Fleming. “Can Pretrained Vision-Language Embeddings Alone Guide Robot Navigation?” *RSS Workshop on Robot Planning in the Era of Foundation Models (RSS 2025: FM4RoboPlan)*. [[Link](#)].

Preprint / Under Review:

2. **Prajwal Koirala** and Cody Fleming. “Flow-Based Single-Step Completion for Efficient and Expressive Policy Learning.” (*Under Review*). [[Link](#)].

1. Hsin-Jung Yang, Zhanhong Jiang, **Prajwal Koirala**, Cody Fleming, and Soumik Sarkar. “LexiSafe: Offline Safe Reinforcement Learning with Lexicographic Safety-Reward Hierarchy” (*Under Review*).

EXPERIENCE

Department of Mechanical Engineering, Iowa State University, Ames, Iowa

Teaching Assistant

(Aug 2023 – Dec 2023)

- Led lab sessions for ME421 *System Dynamics and Controls* every week
- Provided Matlab and Simulink training on system simulation and control system design

North Star Developer’s Village, Lalitpur, Nepal

R&D Engineer

(May 2022 – Jul 2023)

- Designed a customizable wheeled robot platform with ROS2-based navigation system
 - Enabled intuitive tracking/control with web visualization for enhanced robotics functionality
 - Worked with image/point-cloud data from LiDARs and depth cameras
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SKILLS

Programming Languages: Python, C, MATLAB, Javascript

CAD & Simulation: Autodesk Fusion 360, AutoCAD, ANSYS, Simulink

Robotics & Learning: ROS / ROS 2, OpenCV, Tensorflow, Pytorch, Jax

ACHIEVEMENTS

Excellence Awards:

- Excellence in Research Award, **Translational AI Center, Iowa State University** (2025)
- Research Excellence Award, **Graduate College, Iowa State University** (2025)

Fellowship/Scholarship:

- Cornell PhD Fellowship, **Cornell University** (2025)
- Graduate Tuition Award for MS degree, **Iowa State University** (2023)
- Merit-based Scholarship for BE program at Pulchowk Campus, **Institute of Engineering**, Nepal (2017)
- Full Scholarship for studies in Science Faculty, **National Examination Board**, Nepal (2015)

Competitions:

- **Third Place**, CVPR 2025 AVA Workshop - 3D Human Motion Generation Challenge (2025)
- **Second Place**, Corn Yield Prediction Using Satellite Data, *6th Intl MLCAS Workshop*, **\$3000** (2024)
- **First Place**, Model-Based Design in MATLAB/Simulink, *DELTA 2.0*, Nepal (2021)
- **Second Place**, Jigyasa: National Engineering Expo, *Thapathali Campus*, Nepal (2019)

Academic Achievements:

- **Highest Rank**, Mechanical Engineering Stream, *Institute of Engineering Entrance Examination* (2017)
 - **Highest Scorer**, Science Stream, *National Examination Board (Grade XI-XII)*, TTIC (2017)
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