Pranaya Pokharel
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1. Education
   - Ph.D. Mechanical Engineering, Louisiana State University. 2018
   - M.S., Mechanical Engineering, McNeese State University, 2011
   - B.S., Mechanical Engineering, Tribhuvan University, 2007

2. Academic work experience
   - Midwestern State University, Wichita Falls, Texas
     - 2025- Present, Associate Professor, McCoy School of Engineering
     - 2020- 2025, Assistant Professor, McCoy School of Engineering
     - 2019-2020, Visiting Assistant Professor, McCoy School of Engineering
   - Louisiana State University, Baton Rouge, Louisiana
     - 2011-2018, Teaching Assistant and Research Assistant
   - McNeese State University, Lake Charles, Louisiana
     - 2010-2011 Graduate Assistant

3. Non-academic work experience
   - UDECO Pvt. Ltd., Nepal
     - 1999-2002, Mechanical Design Engineer, Designed hydro-mechanical parts of a 4 MW hydropower plant

4. Current membership in professional organizations
   - American Society of Mechanical Engineers (ASME)
   - Society of Automotive Engineers (SAE)

5. Honors and awards
   - Approved for a research sub-award titled “Simulation research of thermal management for semiconductor based high power” in collaboration with Texas Tech University and Army Research Laboratory”
   - Favorite Engineering Professor award, MCOSME Awards Reception, April 2025.
   - Topic chair for “Fluid Mechanics, Machine Learning and Predictive Simulations in Fluid Flows, Aerospace Systems, Thermodynamics, Heat Transfer, Energy Systems, Fluid Power and pneumatic systems, and Renewable Energy Applications” in the Engineering Education track for International Mechanical Engineering Congress and Exposition (IMECE) 2025.
   - Topic co-chair for “Engineering Research Innovation and Research Experiences for Graduate and Undergraduates Students” in the Engineering Education track for International Mechanical Engineering Congress and Exposition (IMECE) 2025.
   - Topic co-chair for “Mechatronics, Robotics, Automation, Automotive, Power Electronic, Control Engineering, Packaging, Automated Storage and Retrieval, Cybersecurity in Industry, Artificial Intelligence and Machine Learning” in the Engineering Education track for International Mechanical Engineering Congress and Exposition (IMECE) 2025.

- Topic chair for "Fluid Mechanics, Machine Learning and Predictive Simulations in Fluid Flows, Aerospace Systems, Thermodynamics, Heat Transfer, Energy Systems, Fluid Power and pneumatic systems, and Renewable Energy Applications" in the Engineering Education track for International Mechanical Engineering Congress and Exposition (IMECE) 2024.
- Topic co-chair for "Engineering Research Innovation and Research Experiences for Graduate and Undergraduates Students" in the Engineering Education track for International Mechanical Engineering Congress and Exposition (IMECE) 2024.
- Topic co-chair for "Mechatronics, Robotics, Automation, Automotive, Power Electronic, Control Engineering, Packaging, Automated Storage and Retrieval, Cybersecurity in Industry, Artificial Intelligence and Machine Learning" in the Engineering Education track for International Mechanical Engineering Congress and Exposition (IMECE) 2024.
- 3rd Place Best Oral Presentation: Green Jesse, Honore Theron, Tezaguic Elias, and Pokharel Pranaya. "Fabrication and testing of engine dynamometer for FSAE car". UGRCAF Fall 2023, Midwestern State University
- Topic chair for "Fluid Mechanics, Aerospace Systems, Thermodynamics, Heat Transfer, Energy Systems, and Renewable Energy Applications" in the Engineering Education track for International Mechanical Engineering Congress and Exposition (IMECE) 2023.
- Topic co-chair for "K-12 Outreach and Engineering Innovation" in the Engineering Education track for International Mechanical Engineering Congress and Exposition (IMECE) 2023.
- 1st Place Creative Activity Award for showcasing FSAE car in UGRCAF Spring 2022.
- Topic chair for "Aeronautics and Space Applications in Engineering Education" in the Engineering Education track for International Mechanical Engineering Congress and Exposition (IMECE) 2022
- Topic co-chair for "Fluid Mechanics, Heat Transfer, and Energy Systems" in the Engineering Education track for IMECE 2022
- Global Education Community Outreach award November 2021.
- 2nd Place Best Oral Presentation: Criblez Ethan, Shanley Paul, Turner Kennedy, Azzouz Salim, and Pokharel Pranaya. "Improve 3D, Printed HX Design and Build Functional Prototype." UGRCAF Spring 2021, Midwestern State University
- BP 1st Block Grant's Research Assistantship 2011-2013
- Phi Kappa Phi membership, 2011

6. Service activities
   a. Within institution
      - Worked as a faculty advisor of Formula SAE chapter at Midwestern State University from Spring 2021 to present.
      - Worked as a faculty advisor of Nepalese Students Association (NSA) at Midwestern State University from Fall 2021 to present.
      - Worked as a co-director in the Young Engineers Summer (YES) Camp from 2021 to present.

- Worked as a member in Master's thesis advisory committee for Mr. Till Gebel, Chalmers University, Sweden.
- Committee member for University Tenure and Promotion Committee from Fall 2025 to present.
- Committee member for Undergraduate Research (UGR) Advisory Committee from Fall 2023 to Spring 2025.
- Committee member for Teaching and Learning Resource Center (TLRC) from Fall 2020 to 2022
- Worked as a faculty advisor of National Society of Black Engineers (NSBE) from Fall 2019 to present.
- Worked as evaluator of engineering presentations at the Undergraduate Research and Creative Activities Forum (UGRCAF) in Fall 2019, Spring 2020, Fall 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024, and Spring 2025.
- Worked as evaluator of EURECA Proposals in Summer 2020, Fall 2021, Summer 2021, Summer 2022, Fall 2022, Summer 2023, Fall 2023, Summer 2024, Fall 2024, and Summer 2025.
- Recruitment Activities: Participation in Student Orientations, Mustangs Rally, High School Football Recruiting, WFISD Career fair, and TACRAO Career fair.

b. Outside of institution
- Topic Organizer for Engineering Education Track in International Mechanical Engineering Congress and Exposition (IMECE).
- Mentor for Engineering Merit Badge for Boy Scouts.
- Judge for TCEA Robotics competitions.
- Judge for Region 9 TAME competitions.
- Organizing committee member of Mechanical Engineering Graduate Students Association (MEGSA) at Louisiana State University
- Member of Nepalese Students Association (NSA), Louisiana State University
- Organizing committee member for Nepalese Students Association (NSA), McNeese State University

7. <u>Publications and presentations</u>

a. Peer-Reviewed Publications

Journal Publications:

i. Pokharel, P., Green, J., Honore, T., & Tezaguic, E. (2025). Shaft Assembly Design and Fabrication for FSAE Engine Dynamometers. Journal of Innovative Ideas in Engineering and Technology (ISSN: 2563-3678), 1(1), 1-73.

ii. Pokharel, P., Antoine, T., Joseph, G., & Warner, N. (2024). Frame design and fabrication of Engine Dynamometers for FSAE cars. Journal of Innovative Ideas in Engineering and Technology (ISSN: 2563-3678), 1(1), 33-97.

iii. Pokharel, P., & Acharya, S. (2021). Dynamics of circular and rectangular jets in crossflow. Computers & Fluids, 230, 105111.

iv. Pokharel, P., Acharya S., "Effect of Turbulence on Cylindrical and Rectangular Transverse Jets". Computers and Fluids (In Preparation)

Conference Publications:

v. Pranaya Pokharel, Jacob Rowland, Trevor Snyder, Luis Gonzalez. Innovations for Clutching and Shifting in Formula-Style Drivetrains. Proceedings of the ASME 2021 International Mechanical Engineering Congress and Exposition. IMECE2022-90587, October 30-November 3, 2022, Columbus, Ohio.
vi. Mahmoud Elsharafi, Ali Elmozughi, Pranaya Pokharel, Madison Krahl, Musaad Aldawsari, Clayton Holmes, Theo Rolle. Experimental Analysis for a New Design of Thermal Energy Storage System. Proceedings of the ASME 2021 International Mechanical Engineering Congress and Exposition. IMECE2021-67656, November 1-4, 2021, Virtual Conference.
vii. Mahmoud Elsharafi, Ali Elmozughi, Pranaya Pokharel, Madison Krahl, Musaad Aldawsari, Clayton Holmes, Theo Rolle. Simulated Model for a New Design of Thermal Energy Storage System. Proceedings of the ASME 2021 International Mechanical Engineering Congress and Exposition. IMECE2021-68202, November 1-4, 2021, Virtual Conference.

b. Presentations
   i. Karki, A., Chijioke, C., Azzouz, S., Pokharel, P., Data Collection from a Dual Venturi Wind Turbine. Presented at UGROW Symposium, July 2025.
   ii. Shrestha, A., Pokharel P. Optimization of Jet engine through structural, thermal and flow analysis. Poster Presented at National Conference on Undergraduate Research (NCUR), April 2025, Pittsburgh, PA.
   iii. Shrestha, A., Pokharel P. Optimization of Jet engine through structural, thermal and flow analysis. Poster Presented at UGRCAF, Spring 2025, MSU Texas, Wichita Falls TX.
   iv. Azzouz, S., Brink, J., Desai, R., Elsharafi, Mahmoud., Guo, Yu., Ilhan, Zeki., Pokharel, P., & Wang, S. Young Engineers Summer Camp for K-12 Students: Stem experiences and Lessons Learned. Presented at IMECE, October 31, 2023.
   v. Shrestha, A., Pokharel P. Optimization of Jet engine. Presented at UGRCAF, Fall 2024, MSU Texas, Wichita Falls TX.
   vi. Pencheon, A., Pleasant, D., Espinoza, J., Pokharel P. Design and Testing of Engine Dynamometer for FSAE Car. Presented at NTASC Spring 2025, MSU Texas, Wichita Falls TX.
   vii. Pencheon, A., Pleasant, D., Espinoza, J., Pokharel P. Design and Testing of Engine Dynamometer for FSAE Car. Presented at UGRCAF, Fall 2024, and Spring 2025, MSU Texas, Wichita Falls TX.
   viii. Camarena, A., Frederic, A., Azzouz, S., Pokharel, P., Testing of Vertical Axis Wind Turbines using Particle Image Velocimetry (PIV) and LabVIEW. Presented at UGROW Symposium, July 2024.
   ix. Green, J., Honore, T., Tezaguic, E., Pokharel P. Fabrication and Testing of Engine Dynamometer for FSAE Car. Presented at NTASC Spring 2024, MSU Texas, Wichita Falls TX.
   x. Green, J., Honore, T., Tezaguic, E., Pokharel P. Fabrication and Testing of Engine Dynamometer for FSAE Car. Presented at UGRCAF, Fall 2023, and Spring 2024, MSU Texas, Wichita Falls TX.

xi. Honore, T., Pokharel, P. Simulation of H-Darrieus Wind Turbine using Fluid Structure Interaction in Ansys Fluent. Presented at UGROW Symposium, June 2023.

xii. Pokharel, P., Azzouz S., "Study and Control of Localized Vortices to Enhance Wind Turbine Power Generation". Presented at Celebration of Scholarship, Spring 2023, MSU Texas, Wichita Falls, TX.

xiii. Antoine, T., Joseph G., Warner N., Pokharel P. Engine Dynamometer for FSAE Cars. Presented at NTASC Spring 2023, MSU Texas, Wichita Falls TX.

xiv. Antoine, T., Joseph G., Warner N., Pokharel P. Engine Dynamometer for FSAE Cars. Presented at UGRCAF, Fall 2022, and Spring 2023, MSU Texas, Wichita Falls TX.

xv. Pokharel, P., Azzouz S., "Investigation of the Power Generated by a 3-D Printed Wind Turbine Using a Wind Tunnel". Presented at Celebration of Scholarship, Spring 2022, MSU Texas, Wichita Falls, TX.

xvi. Pranaya Pokharel, Jacob Rowland, Trevor Snyder, Luis Gonzalez. Innovations for Clutching and Shifting in Formula-Style Drivetrains. Presentation at International Mechanical Engineering Congress and Exposition. IMECE2022-90587, October 30-November 3, 2022, Columbus, Ohio.

xvii. Pokharel, P., Azzouz S., Gebel T., "Investigation of the Power Generated by a 3-D Printed Wind Turbine Using a Wind Tunnel". Presented at IMECE, November 5, 2021.

xviii. Luiz Gonzalez, Jacob Rowland, Trevor Snyder, and Pranaya Pokharel. Shifter Mechanism with Integral Hand Clutch for Formula SAE. UGRCA Fall 2021, MSU Texas, Wichita Falls, TX.

xix. Edvin Benjamin, Tina Johnson, and Pranaya Pokharel. Design of an Exoskeleton using Servo Motors, UGRCA Fall 2021, MSU Texas, Wichita Falls, TX

xx. Aldawsari Musaad, Holmes Clayton, Krahl Madison, Rolle Theo, Mahmoud Elsharafi, Pokharel, Pranaya, and Ali Elmozughi. Experimental and Simulation Model for a New Design of Thermal Energy Storage System. UGRCA Fall 2020 and Spring 2021, MSU Texas, Wichita Falls, TX. Virtual Presentation.

xxi. Aldawsari Musaad, Holmes Clayton, Krahl Madison, Rolle Theo, Mahmoud Elsharafi, Pokharel, Pranaya, and Ali Elmozughi. Experimental and Simulation Model for a New Design of Thermal Energy Storage System. North Texas Area Student Conference, NTASC - SPRING 2021.

xxii. Criblez Ethan, Shanley Paul, Turner Kennedy, Azzouz Salim, and Pokharel Pranaya. Improve 3D, "Printed HX Design and Build Functional Prototype. UGRCA Fall 2020 and Spring 2021

xxiii. Criblez Ethan, Shanley Paul, Turner Kennedy, Azzouz Salim, and Pokharel Pranaya. Improve 3D, "Printed HX Design and Build Functional Prototype. North Texas Area Student Conference, NTASC - SPRING 2021.

xxiv. Hargis Clayton, Kidwell Kyle, Kambabi Pamela Yvonne, Zenkins Jackary, Azzouz Salim, and Pokharel Pranaya. Universal Sprue Fixture with Powered Multi-Axis Rotating Synchronous Parallel Gripper for the AW Bell Cutoff Saw. UGRCA Fall 2019 and Spring 2020, MSU Texas, Wichita Falls, TX

xxv. Major Taris, Telemacque Kimberley, Hendrix William, Glenn Hunter, Azzouz Salim, and Pokharel Pranaya. A Tranter Heat MaxChanger Fabricated Using

Additive Manufacturing. UGRCA Fall 2019 and Spring 2020, MSU Texas, Wichita Falls, TX

xxvi. Charles Whitling, Jonathan Granger, Arnold James, Sofia Rendon, Jan Brink, and Pokharel Pranaya. Non-Servo Pick and Place Robot used in Clamp and Drill Station with Hopper Feeder. UGRCA Spring 2020, MSU Texas, Wichita Falls, TX

xxvii. Pokharel,P., Acharya S., "Turbulence Generation Methods for LES". Presented at 16th Annual MIE Graduate Student Conference, Louisiana State University, April 22, 2017

xxviii. Pokharel, P., Roy, S., Acharya, S., "Simulations of Oil Plume Trajectory in a Cross-Flow", Presented at 3rd Annual Deepwater Horizon (DWH) Conference, April 22, Baton Rouge, LA, USA, 2013

8. Professional development activities
   - UGRCAF Evaluator 2019, 2020, 2021, 2022, 2023, 2024, 2025
   - EURECA Proposal Evaluator 2019, 2020, 2021, 2022, 2023, 2024, 2025
   - Basic Automation Studio Training 2025
   - Basic and Applied CFD Training 2021
   - ABET Symposium 2021, 2022
   - Howmet Aerospace Tour 2025
   - Westlake Tour 2025
   - Magic Aire Tour 2023
   - Production Machine and Tool, LP factory tour 2020
   - Transland factory tour 2020
   - Tranter factory tour 2020