# RITIK POKHAREL

Graduate Research Assistant | Precision Agriculture | Yield Modeling | UAV + Satellite Remote Sensing | Agri-AI Researcher

## ABOUT

I’m Ritik Pokharel, a passionate researcher at the intersection of agriculture, data science, and automation. With a background in agricultural science and a current role as a Graduate Research Assistant at LSU, I specialize in precision agriculture—leveraging remote sensing, AI, and analytics to drive smarter, sustainable farming. I thrive where drones meet data and agronomy meets algorithms.

## RESEARCH WORK

• Soil analysis, GIS-based fertility assessment, and soil mapping of cardamom growing area, Pandam, Ilam, Nepal: https://doi.org/10.22214/IJRASET.2023.51229  
• Response of processing techniques on Arabica coffee variety  
• Evaluation of soil fertility status of Nepal cardamom field under different shade management  
• Factors affecting farm mechanization in Rupandehi district, Nepal  
• Crop modeling and yield prediction in rice and in-season simulation  
• Nitrogen optimization and digital N management in rice  
• Machine learning and remote sensing integration for rice yield forecasting  
• DSSAT-based rice modeling and climate-smart simulations

## EXPERIENCE

Graduate Research Assistant (Jan 2024 – Present) – LSU, School of Plant, Environmental, and Soil Sciences (SPESS)  
• Conducting field-based and UAV-based rice nitrogen × variety trials  
• Performing NDRE and vegetation index analysis from multispectral drone imagery  
• Leading machine learning model development for yield prediction  
• Integrating DSSAT crop model with satellite and sensor data  
• Working on optimizing nitrogen use efficiency and phenological modeling in rice

Senior Research Manager (Dec 2021 – Dec 2023) – Gorkha Agri Group, Kalanki-13, Kathmandu & Tulsipur, Dang  
• Disease identification and management in rice crops  
• Worked with breeding and seed quality control teams  
• Provided training and plant health clinics  
• Partnered with NSAF, CIMMYT, SEAN on seed production

Project Coordinator (Feb 2020 – Aug 2021) – Shreenagar Agro Farm, Butwal, Rupandehi  
• Led employment & training projects for 2500+ farmers  
• Collaborated with UKaid, WEP, Baliyo Nepal, SKIH  
• Promoted climate-smart practices and biodiversity conservation

## ACADEMIC QUALIFICATION

• Master’s in Precision Agriculture (Ongoing), LSU, School of Plant, Environmental, and Soil Sciences – Started May 2024  
• Bachelor’s in Agriculture – IAAS, Tribhuvan University, Rupandehi – 78.83%, 2021  
• HSEB (Intermediate) – Nepal Mega College, Kathmandu – 72.6%, 2016  
• SLC – Little Angel’s Higher Secondary School – 82.88%, 2013

## AWARDS AND ACHIEVEMENTS

• Third place in AI in Agriculture Conference Poster Competition – Mississippi, 2025  
• Attended 2025 International DSSAT Training Program – Griffin, Georgia  
• Full undergraduate scholarship – Tribhuvan University  
• Vice President – Technical Students’ Association of Nepal (TSAN), Rupandehi  
• All-Nepal Chess Tournament Champion  
• Sports & quiz competition medals (table tennis, cricket)

## SKILLS

• R, Python, QGIS, Pix4D, PlanetScope, DSSAT & crop modeling  
• Machine Learning for yield forecasting  
• Remote sensing, NDRE analysis, UAV mapping  
• Communication, teamwork, and leadership  
• English proficiency: TOEFL score 101

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## SOCIAL LINKS

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## PROFILE PHOTO

