VRATIKA CHAUDHARY

Ph.D. candidate, University of Florida, Gainesville, Fl

@ chaudhary.vratika@gmail.com   📞 +1662-801-2013   in www.linkedin.com/in/vratika-chaudhary   🐦 @scinat1
github.com/vratchaudhary   www.vratchaudhary.github.io

SUMMARY

- Quantitative scientist with 3+ years of experience; focused on leveraging disparate data, statistical modeling, and domain knowledge in environment and healthcare sector to facilitate data-driven decision making.
- Strong verbal, analytical, scientific writing and presentation skills.

EDUCATION

Ph.D., Quantitative Ecology, Wildlife Ecology and Conservation

Dissertation: State uncertainty across scales, individuals to communities

📅 Expected December 2020   📍 University of Florida, USA

Master of Science, Biological Sciences

Thesis: Risk of disease spillover at wildlife-domestic carnivore interface

📅 2016   📍 Clemson University, USA

Bachelors of Dental Surgery

📅 2011   📍 West Bengal University of Health Sciences, Kolkata, India

PROFESSIONAL APPOINTMENTS

Graduate Research and Teaching Assistant

University of Florida, Gainesville, Fl

📅 August 2016 - Present

Graduate Research and Teaching Assistant

Clemson University, Clemson, SC

📅 August 2013 - May 2016

Junior Resident, Department of Dental Science

Kolkata National Medical College and Hospital, Kolkata, India

📅 September 2011 - September 2012

RESEARCH PROJECTS

Understanding mammalian community dynamics in northeast India

📅 August 2017- Present   📍 University of Florida

- Quantified influence of biotic and abiotic factors on structure and function of mammalian community of northeast India to guide conservation decisions. This community is composed of many endangered and data-deficient species.
- Contributed to the development of and trained the field teams in digitized data collection systems developed for Pakke Tiger Reserve, India.
- Tools - Bayesian methods, R, GIS.

Accounting for state uncertainty in multi-tissue disease systems

📅 August 2017 - June 2020   📍 University of Florida

- Contributed to the development of multi-state model which reduces bias in prevalence estimates in case of multi-tissue disease systems by up to 14%.
- Model allows flexible infection definition and cost-benefit assessment of sampling protocol.
- Tools - Multi-state occupancy model, logistic regression, R, GIS.

Image classification using deep learning

📅 April 2018 - Present   📍 University of Florida

- Contributed to the implementation of deep learning model which decreased time required to sort camera-trap images by 70% by automatizing image categorization.
- Tools - Keras library in Python, transfer learning

Population ecology of California pocket mouse

📅 March 2019 - August 2020   📍 University of Florida

- Estimated, survival and recruitment rate of data-deficient species California pocket mouse.
- Tools - Demographic modeling, R

Population Viability Analysis - quality assessment

📅 Published August 2019, Conservation Biology   📍 University of Florida

- Assessed model robustness of 160 peer reviewed PVAs to guide conservation decisions.
- Tools - GLM, Mixed effect models, R, Scientific literature review.

Risk of disease spillover in wild carnivores of central India

📅 June 2014 - 2016   📍 Clemson University

- Conducted spatio-temporal assessment of disease-spillover risk from feral to wild carnivores in Kanha Tiger Reserve, India.
- Contributed to CDV vaccine policy development in the state of Madhya Pradesh, India.
- Tools - ELISA, PCR, GLM, SAS

Covid-19 monitoring dashboard for India

📅 March 2020 - ongoing   📍 Personal Project

- Developed and actively maintain Covid-19 dashboard to monitor disease progress in India; integrated disparate data.
- Tools - Flexdashboard, R

TEACHING

Teaching Assistant- Wildlife population ecology

📅 2017 – present   📍 University of Florida, Fl

- Facilitated development of data-analysis, programming, and demographic modeling skills of over 180 graduate and undergraduate students (WIS 4501/6455)
- Delivered guest lecture on population viability analysis to graduate level class (WIS 4501/6455).
- Delivered guest lecture to Global Biodiversity and Culture class (Zoo 4926)

Lab instructor- General Biology; immunology; anatomy and physiology

📅 2013 – 2016   📍 Clemson University, SC

- Developed lab and statistical skills of over 200 undergraduate students of biology and non-biology majors

SKILLS

| Quantitative ecology | Project management | Bayesian statistics | Population modeling |

| Infectious disease modeling | Data analysis and visualization | Spatial modeling |

| Lab skills- Cell culture, PCR, ELISA | Data wrangling | Scientific writing and review |

| Machine learning | Research design | Geographic information system | Remote surveying | SQL, SQLite |

| Tableau | Google Earth Engine | Fundraising |

PUBLICATIONS

- **Chaudhary V.**, and Oli M.K. 2020. A critical appraisal of population viability analysis. Conservation Biology, 34: 26-40, doi:10.1111/cobi.13414 . Editor's choice
- **Chaudhary V.**, Wisely S.M., Hernandez F., Hines J.E., Nichols J.D., and Oli M.K. 2020. A multi-state occupancy modelling framework for robust estimation of disease prevalence in multi-tissue disease systems. Journal of Applied Ecology, doi:10.1111/1365-2664.13744
- **Chaudhary V.**, Wisely S.M., Hernandez F., Hines J.E., Nichols J.D., and Oli M.K. 2020. A multi-state occupancy modeling framework for robust estimation of disease prevalence in multi-tissue disease systems, v4, Dryad, Dataset, https://doi.org/10.5061/dryad.z8w9ghx94
- **Chaudhary V.**, Tietje W.D., Polyakov A.Y., Rolland V., and Oli M.K. 2019. Factors driving California pocket mice (*Chaetodipus californicus*) population dynamics (under review Journal of Mammalogy)
- **Chaudhary V.**, Rajput N., Shrivastav A.B, and Tonkyn D.W. 2016. Risk of disease spillover from dogs to wild carnivores in Kanha Tiger Reserve, India bioRxiv 360271; doi: https://doi.org/10.1101/360271

PRESENTATIONS

- **Chaudhary V.**, and Oli M.K. A critical evaluation of population viability analysis. International Congress of Conservation Biology. Kuala Lumpur, Malaysia (2019).

- **Chaudhary V.**, Wisely S.M., Hernandez F., Hines J.E., Nichols J.D., and Oli M.K. Accounting for uncertainty in detection of wildlife diseases. Annual meeting of Florida co-op unit co-operators (2019).

- **Chaudhary V.**, and Oli M.K. A critical evaluation of population viability analysis (poster). International Congress of Conservation Biology. Cartagena, Colombia (2017).

- **Chaudhary V.**, Rajput N., Shrivastav A.B, and Tonkyn D.W. Risk of disease spillover from dogs to wild carnivores in Kanha Tiger Reserve, India. International Congress of Conservation Biology. Montpelier, France (2015).

- **Chaudhary V.**, Rajput N., Shrivastav A.B, and Tonkyn D.W. Risk of disease spillover from dogs to wild carnivores in Kanha Tiger Reserve, India. Ecological Society of America, USA (2015).

COURSEWORK

- **Quantitative Ecology:** Population ecology, GIS programming, regression analysis, landscape ecology, biological statistics, population genetics, conservation biology, data carpentry, ecology
- **Project management:** Facilitation skills, fundraising for natural resources
- **Healthcare:** Microbiology, immunology, epidemiology, oral and maxillofacial pathology, oral surgery, medicine, anatomy and physiology

LEADERSHIP AND SERVICE

Certified instructor, Data and Software Carpentry

Led various data analysis, database management and geospatial workshops in Gainesville, Fl; led database management workshop in Rochester, NY

📅 July 2019 - present

Volunteer statistician, Statistics Without Borders

Impact project: Analysed data for "Skateistan" project, an Oscar 2020 winning documentary

📅 March 2019 - present

Instructor, Girls Who Code, Gainesville chapter

Facilitated projects based on Python for high school students, Scratch projects for elementary school students

📅 Jan 2019 - present

Travel grant coordinator, Wildlife Graduate Student Association, University of Florida

📅 June 2018 - present

Secretary, Tropical Conservation and Development Student Association, University of Florida

📅 June 2017 - June 2018

Social chair, Wildlife Graduate Student Association, University of Florida

📅 June 2017 - June 2018

Treasurer, Biological Sciences Graduate Student Association, Clemson University

📅 June 2014 - June 2015

GRANTS AND AWARDS

Fellowships and awards (overall USD 32,500):

University of Florida Informatics Institute Fellowship USD 14,000

📅 2020　　　　　　　　　　　　　　　📍 University of Florida

Centre for Resilient Agriculture and Syngenta A2i scholarship

📅 2020　　　　　　　　　　　　　　　📍 University of Florida

Wildlife Ecology and Conservation Outstanding Graduate Student Award for Teaching

📅 2020　　　　　　　　　　　　　　　📍 University of Florida

University of Florida International Center Alec Courtelis Award, USD 1500

📅 2019　　　　　　　　　　　　　　　📍 University of Florida

University of Florida College of Agriculture and Life Sciences Outstanding Graduate Student Award

📅 2019   📍 University of Florida

Wildlife Ecology and Conservation Outstanding Student Award for Graduate Research

📅 2019   📍 University of Florida

University of Florida Tropical Conservation and Development Fellowship USD 9000

📅 2019   📍 University of Florida

University of Florida Biodiversity Institute Fellowship, USD 20000

📅 2018   📍 University of Florida

University of Florida College of Agriculture and Life Sciences Scholarship USD 2000

📅 2018   📍 University of Florida

Research and travel grants (overall USD 10, 900):

Rufford Small Grants for Nature, USD 6000

📅 2018   📍 University of Florida

Society of Conservation Biology Travel Award USD 300

📅 2019   📍 University of Florida

University of Florida Data Carpentry Club Travel Grant USD 500

📅 2020   📍 University of Florida

University of Florida Graduate student Council Travel Award, USD 350

📅 2019   📍 University of Florida

American society of Mammalogists Travel Award, USD 500

📅 2018   📍 University of Florida

Society of Conservation Biology Fellowship, USD 1000

📅 2017   📍 University of Florida

University of Florida Tropical Conservation and Development Field Research Grant USD 2000

📅 2017   📍 University of Florida

University of Florida Wildlife Graduate Student Travel Award, USD 250

📅 2017   📍 University of Florida