Anchit Lakhanpal

S/o Rakesh Sharma
Lakhanpal Niwas,
Clief-En-Estate,
Shimla-171001,
India

email:anchit.iitd@gmail.com
Mob no. +91-8447141748

PERSONAL DETAILS

Name	Anchit Lakhanpal
Father's Name	Rakesh Sharma
Date of Birth	20thJune1990
Dept. Of Specialization	Water Resource Engineering (Civil Engineering)
Gender	Male
Nationality	Indian
Languages Known	English, Hindi

ACADEMIC DETAILS

Year	Degree /Exam	Institute	CGPA/ Marks(%)
2015	M.Tech in Water Resources Engineering	Indian Institute of Technology Delhi	9.033
2012	B.Tech in Civil Engineering	Jaypee University of Engineering & Technology	8.2 (84%)
2008	CBSE	J.C.B Public School, Shimla	67.8%
2006	CBSE	Dayanand Public School, Shimla	74.4%

WORK EXPERIENCE

- **PhD. Researcher**

  National Flood Risk Assessment for Canada using Nightlight Satellite Imagery data (January, 2016- before exiting the program in August 2016), Dept. of Civil and Geological Engineering, **University of Saskatchewan, Saskatoon (Canada)**

  Supervisor –Prof. Amin Elshorbagy

  Details:

  ✓ Generated the Flood risk, hazard and vulnerability map.
  ✓ For Flood vulnerability used Nightlights and Land use cover.
  ✓ Considered the distance and elevation of study areas from the nearest stream for the flood hazard.
  ✓ Clubbed the flood hazard and flood vulnerability to obtain the flood risk map.

- **Research Assistant**

  Downscaling Framework.(July,2015-October, 2015),Dept. of Civil Engineering, **Indian Institute of Technology, Delhi** (India)
  Supervisor - Prof. Rakesh Khosa and Dr. R Maheswaran

  Details:

  ✓ Developing Study of interrelationship of climatic variables at different time–frequency domain.
  ✓ Study trend in climatic extremes for future data and calculate return period of extreme events for planning purposes.

PROJECTS

- **Wavelet assisted climatic downscaling of GCM variables for Precipitation and Temperature** (August,2014- June,2015):

✓ Downscaling of the Global Circulation Models (GCM) to the mean monthly precipitation and temperature at regional scale by the wavelet assisted multiple linear regression (MLR) models for the Krishna basin, India-Comparing the results of Wavelet based hybrid models and stand-alone MLR models to establish the superiority of wavelet based hybrid models over the MLR.

✓ Exploration of higher order Volterra approach to establish relationship between climatic variables and observed precipitation and temperature at regional level.

✓ Performance evaluation of various GCM's for climatic downscaling.

✓ A MATLAB toolkit based on proposed approach is developed by our IIT team available at Description: https://sites.google.com/site/climaticdownscalingtool/home

- **Development of advanced lead time flood prediction models: Case study for Australian basins** (Feb,2015-June,2015):

✓ Real time flood forecasting models developed for various river basins in Australia. The study utilizes the bootstrapping to counter the uncertainty in prediction along with wavelet transform to improve the accuracy of the models.

- **IIT Delhi Campus parking lot analysis and recommendation** (Feb, 2014 - Apr, 2014):

✓ Modeling of parking lots to accommodate peak inflows along with efficient use of parking space using GPS, Lidar and google earth.

- **Use of bottom ash in concrete** (July, 2011-Jun,2012 ,B.Tech project):

✓ Experimental investigations on potential use of bottom ash in production of concrete mixes as part replacement of cement and also as replacement of natural sand.

INDUSTRIAL TRAINING

- **Expansion of Eastern complex of Tata Motors,** Shapoorji Pallonji & Co. Ltd (May, 2011 - Jun, 2011)
  Location: Lucknow, Exposure to Safety induction, concrete production and quality check of various materials at site. Flexible pavement construction and boring done for the construction of flyover.

INTERNSHIPS

- **Construction of ITI hostels, HPSIDC** (Jun, 2010 - July, 2010) : Foundation of 5 storey hostel construction at Shimla
- **AutoCAD course, Autodesk Training Center** (Jun, 2009 - July, 2009): AutoCAD 2D and 3Ddrawings.

MODELLINGSKILLS

- Linear and Non- linear regression analysis
- Artificial Machine learning techniques like Neural Networks, Fuzzy Inference Systems, and Support Vector Machines etc.
- Variable reduction techniques like Bootstrapping, Correlation analysis, Factor analysis, Mutual Information etc.
- Multi- resolution modeling using Wavelet analysis.

COMPUTER SKILLS

- Good command of Office Suite(word processor, spreadsheet, presentation software)
- Proficient in MATLAB, GIS, SWAT modelling, FORTRAN and AutoCAD
- Programming languages (programming courses were compulsory in the academic curriculum)
- Hydrological Modelling tools Ansys Fluent and IRIC.

CONFERENCES

- **Statistical downscaling of GCM outputs using wavelet based model** (Published) at International Conference on modeling tools for sustainable water resource management, December 2014, IIT Hyderabad.

PUBLICATIONS

- ***Application of multi-scale wavelet entropy and multi-resolution Volterra models for climatic downscaling*** V. Sehgal, A.Lakhanpal, R.Maheswaran, R.Khosa (Published in Journal of Hydrology)
- ***"Wavelet coupled Statistical models for Downscaling of GCM outputs to mean monthly temperature at regional level –A case study of Krishna basin, India."*** A.Lakhanpal, V.Sehgal, R.Maheswaran, R.Khosa (Under Review in Stochastic Environmental Research and Risk Assessment)
- ***Topography- and nightlight-based national flood risk assessment in Canada*** Amin Elshorbagy, Anchit Lakhanpal, Bharath Raja, Serena Ceola, Alberto Montanari, and Karl-Erich Lindenschmidt Hydrology and Earth System Sciences (Under Review)
- **Rainfall projection in Yamuna river basin, India with statistical downscaling** Siddharth Chaudhary, Vasant Govind Kumar Villuri, A.K.Gosain, Anchit Lakhanpal (Accepted by Intenational Journal of Scientific &Engineering Research (IJSER))
- **Pozzolanic properties and utilization of bottom ash in cement and concrete** Ajoy Mullick, Akash Jain, Anchit Lakhanpal, Krishna Murari (Published as Lead paper)at 6th International Conference on Asian Concrete Federation(ACF) 2014, South Korea.

SCHOLASTICACHIEVEMENTS

- **NSERC Scholarship:** Scholarship for PhD
- **MHRD Scholarship:** Scholarship for M.Tech
- Qualified GATE 2012 with 94 percentile.
- **Qualified GATE 2013 with 98.92 percentile**
- **Campus placements** (after B.tech) : **Era Infra Engineering Limited** (Graduate Engineer Trainee)
  Infosys (Systems Engineer –Trainee)

EXTRACURRICULARACTIVITIES

- Represented IIT-Delhi at **3rdIndia Water Week- 2015** (Water Expo -2015), Pragati Maidan, New Delhi
- **Membership:** Holds Student membership of Indian Concrete Institute
- Successfully completed Teaching Assistantship training at Ron & Jane Graham School of Professional Development

OTHER INTERESTS

- Traveling, Playing Chess, Playing Guitar and Swimming

DECLARATION

I hereby declare that the above information given is true to the best of my knowledge.

Date _____ Anchit Lakhanpal

Place_____