

Binayak Lohani

Curriculum Vitae

Nepal

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DOB: Sep 14, 2001

Education

- 2023–Present **University of Pittsburgh, USA**, *Graduate Student, Mechanical Engineering.*
- 2018–2023 **IOE Pulchowk Campus, Tribhuvan University, Nepal**, *Bachelors of Engineering, Aerospace Engineering.*
- 2016–2018 **Goldengate College, Nepal**, *High School, Science.*
- 2008–2016 **LRI School, Nepal**, *School Leaving Certificate.*

Research Experience

- March 2021 – **CFD Research Intern**, FOSSEE, IIT BOMBAY, Semester Long Internship.
 - Dec 2021 -Research Topic: Large Eddy Simulation (LES) of a confined planar jet opening in a rectangular channel
 - Supervisor: Prof. Manaswita Bose
 - Jan 2022 – **Visiting Student Researcher**, UNIVERSITY OF OTTAWA.
 - June 2022 -Research Topic: Numerical Model of a Tidal Current Acceleration Structure (TCAS)
 - Supervisor: Prof. Majid Mohammadian
 - April 2022 – **Undergraduate Researcher**, HARVARD UNIVERSITY.
 - Present -Research Topics:
 1. Thermal Modeling and Analysis of the High-Altitude-Long-Endurance (HALE) solar aircraft's propulsion system, SACOS.
 2. Drag Analysis of High Altitude Stratospheric Superpressure and Zero Pressure Balloons using LES
 3. CHT Analysis of a thermal optical plate
 - Supervisor: Er. Craig Mascarenhas, Anderson Research Group
 - June 2022 – **Bachelor Thesis**, IOE PULCHOWK CAMPUS.
 - Present -Research Topics: Numerical study of the dispersion of pollutants in the urban street canyon
 - Supervisor: Prof. Neeraj Adhikari and Prof. Arun Bikram Thapa
- ### Volunteer and Work Experience
- Sep 2019 – **Committee Member**, LEO CLUB HIGH VISION, KATHMANDU.
 - Present -Successfully conducted fundraising campaigns for poor school students and various other social activities such as Blood Donation Programs.
 - Aug 2020 – **Tutor**, NAWTAN ELEARNING, Putalisadak, Kathmandu.
 - Dec 2020 -Mathematics tutor for high school students helping with Calculus.
 - Sep 2022 – **Technical Contributor**, CFD-FOSSEE, IIT Bombay.
 - Present -Creating Spoken Tutorials for intermediate users of OpenFOAM.
 - Mentoring the interns in research-based projects.
 - Mentor at the Workshops of CFD

Skills & Abilities

Programming Languages	C, C++, FORTRAN, PYTHON, MATLAB
CAD	CATIA, SOLIDWORKS
CAE	ANSYS, OPENFOAM, POINTWISE
Software	LATEX, MS WORD, MS EXCEL

Languages

Nepali	Native Speaker
Hindi	Fluent
English	Fluent

Publications

Peer-Reviewed Conference Papers

- 2022 **Binayak Lohani, Ashley Melvin and Manaswita Bose** , Large Eddy Simulation of a confined planar jet opening in a rectangular channel, *48th National Conference on Fluid Mechanics and Fluid Power*, 2023, DOI: [10.1007/978-981-19-6970-6_67](https://doi.org/10.1007/978-981-19-6970-6_67).
- 2023 **Nishit Pachpande, Binayak Lohani and Naren Rajan Parlikkad** , Numerical Investigation of Flow and Residence Time Distribution in Serpentine Microchannels, *10th International and 50th National Conference on Fluid Mechanics and Fluid Power*, 2023.

Journal Article

- 2023 **Biraj Khadka, Binayak Lohani, Arun Bikram Thapa, Bibek Parajuli and Neeraj Adhikari**, Flow physics of air pollutants dispersion: A case study in an urban street canyon in Baghbazar, Kathmandu, *Advances in Engineering and Technology CCMT*, 2023.
- 2022 **Binayak Lohani, Derek Foran, Abdolmajid Mohammadian and Ioan Nistor** , Numerical Model of a Tidal Current Acceleration Structure, *Journal of Renewable and Sustainable Energy*, 2022, DOI: [10.1063/5.0104471](https://doi.org/10.1063/5.0104471).

In Review

- 2023 **Binayak Lohani and Craig Mascarenhas** , Aerodynamic drag analysis of superpressure and zero pressure balloons using Large Eddy Simulations (LES), *Advances in Space Research*, 2023.