

Arijit Laik

Versatile Computational Geoscientist | Modeller

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About Me

As a **Geoscientist**, my background spans into numerical and data **modeling, simulation, analysis**, and geospatial applications. Proficient and **versatile** in programming and communication, I derive joy from turning **complex data** into actionable intelligence with enthusiasm, precision and dedication.

- Proficient in translating complex models and datasets into deliverable insights and compelling visualizations.
- Dedicated to addressing challenges in data-driven decision-making, climate change, energy transition, and sustainability.
- Experienced in leveraging diverse approaches for effective and collaborative problem-solving and decision support and eager to apply technical acumen and dedication to contribute to impactful data-driven solutions.

Experience

Ph.D. Candidate	Configured, executed and analyzed numerical Simulations of Subduction and Collision on High-Performance Clusters TA for Computational Modeling with Python Coursework in the Earth Sciences BSc Program	 02.09.2018 - 02.02.2024  Vu Amsterdam
Consultant	Freelance creative and science consultant for artists and performance makers	 2020-  Amsterdam
Intern	Collection Processing and Interpretation of Subsurface Data, Reserve Estimation	 May - June, 2017  ECL, Coal India Limited
Freelancer	Web Developer (frontend and backend), hosting, cloud deployments, Graphic Designer	 2013 - 2016  Kolkata, India

Skills

Languages: English (Working/Bilingual), Bengali (Native/Bilingual), Hindi (Fluent), Dutch (Beginner)





Domain Knowledge

- **Geoscience:** Fluid Dynamics (low Reynolds number), Numerical Modeling (FEM + PIC), Tectonics and Structural Geology, Geo-spatial Analysis, 3D Geological Modeling
- **Computational Expertise:** Simulation Design, Parallel Computing (MPI), FAIR Principles, Progressive Web Apps
- **Data Modelling:** Curve fitting, Time Series Forecasting (ARMA), Clustering (K-means, t-SNE), Classification (Random Forest, K-NN), Gaussian fitting
- **Statistical Analysis:** Regression Analysis (Linear, polynomial, logistic), dimensionality reduction (PCA), Inferential Statistics (Chi-square test, T-test, F-test), Log Transformation, Distribution Analysis

Technical Skills: Frameworks and Tools

- Programming/Scripting: Python, R, Julia, C/C++, Bash/Shell, SQL, JavaScript, NodeJS, HTML5
- Modeling and Analysis: Numpy, Scipy, Pandas, PETSc, HDF5, Numba, Scikit-Learn, Beautiful Soup
- Data Visualization: Seaborn, Matplotlib, Plotly, D3.js, Tableau, Paraview
- Data Management: Dask, Rclone, Google Drive API, SQL
- Cloud Environments and Deployment: Docker, Singularity, Google Cloud Console
- Geospatial Applications: QGIS, Google Earth Engine, GlobalMapper, Gplates
- Collaborative Tools: Git, CI/CD, Jira, Slack

Education

M.Sc.	Applied Geology Numerical Modeling of Fold and Thrust belts, Geodynamics	 2016 - 2018  University of Calcutta
B.Sc	Geology (Hons.) with Mathematics, Physics, Environmental Sciences and Computer Applications	 2012 - 2015  Presidency University, Kolkata

Publications

- **Laik, Arijit**, Schellart, Wouter P, and Strak, Vincent. **2023**. "Protracted continental subduction, indentation and collisional boundary migration coupled with adjacent oceanic slab-rollback and slab detachment in large-scale buoyancy-driven 3D whole-mantle scale numerical models of subduction-and-collision." *EGU General Assembly 2023*.
- **Laik, Arijit**, Schellart, Wouter P, and Strak, Vincent. **2023**. "Sustained indentation in 2-D models of continental collision involving whole mantle subduction". In: *Geophysical Journal International* 232.1, pp. 343-365.
- **Laik, Arijit**, Schellart, Wouter, and Strak, Vincent. **2022**. "Convergence at continental collision zones: Insights from long-term 2D geodynamic models of buoyancy-driven subduction and collision." *EGU General Assembly Conference Abstracts*, EGU22-12441.
- **Laik, Arijit**, Schellart, Wouter P, and Strak, Vincent. **2021**. "Trench Advance in Collisional settings: insights from large scale 2D and 3D models". *EGU General Assembly Conference Abstracts*, EGU21-7210.
- Ghosh, Subhajit, [...], and **Laik, Arijit**. **2020**. "Mid-crustal ramping of the Main Himalayan Thrust in Nepal to Bhutan Himalaya: New insights from analogue and numerical experiments". In: *Tectonophysics* 782, p. 228425.
- Beucher, Romain, [...], **Laik, Arijit**, et al. **2019**. "UWGeodynamics: A teaching and research tool for numerical geodynamic modelling". In: *Journal of Open Source Software* 4.36, p. 1136.
- Laik, A. **2016**. "SvgNet-Structural Geology nets in the modern web platform Wulff net and Schmidt net". *Annual General Meeting of the Geological Society of India*, p. 255.

Voluntary Work

Dedicated to equity and inclusion, my roles as an **EDI Committee Member** at VU Amsterdam and in collaborative projects like Blink Festival highlight my commitment to community engagement. With **creativity** and **adaptability**, I bring a **humble dedication** to every project, striving for **excellence** and **positive impact**.

- **EDI Committee Member** at Department of Earth Sciences, VU Amsterdam: Spearheaded initiatives promoting equity, diversity, and inclusion by organizing and moderating sessions. (2022 - 2023)
- **Production Assistant** at DUST and Current: A Space: Collaborated with artists and academics on captivating creative projects, providing essential production support and assistance. (2018 - 2022)
- **Resident Committee Member** at De Feniks Student Housing: Represented resident interests, addressed concerns with housing provider, and fostered community spirit through social events. (2020 - 2022)
- **Co-Creator** of "Unphibian Localisation": Conceptualized and executed thought-provoking performance at the intersection of art, science, and urban ecology. Amsterdam segment, Remote theatrical by Gessnerallee Zurich. (Sep-Oct, 2022)
- **Production Manager** for Blink Festival: Orchestrated 24-hour festival celebrating independent performance art, demonstrating leadership and ensuring success. (Oct-Nov, 2022)
- **Performer and Consultant** for "Saying what you mean will save the planet": Bringing creative vision and technical expertise to the performance art graduation project. (July, 2023)
- **Experienced Cook** with Passion for Culinary Experiences: Crafted exquisite and delectable dishes for art events and collaborations, enhancing overall impact.
- **Chef** for Somatic Labs : DAS Graduate School, Amsterdam Hogeschool voor de Kunsten. (December, 2023)