

Nilavra Bhattacharya

Mannheim, Germany • nilavra.in

EMPLOYMENT

- 2023.07-
present
and
2022.06-
2022.09
- ABB Corporate Research Centre, Germany**
Research Scientist – Industrial AI (Present, Full-time)
Summer Research Intern (2022.06 – 2022.09) – DAAD RISE Program (German Academic Exchange Service)
- **Explainable AI (XAI) for Industry 4.0:** Developing end-to-end Automated Machine Learning (AutoML) pipelines, which are interactive and explainable (XAI) for a wide range of **industry stakeholders**: domain experts (process engineers), industrial workers (operators), and data scientists
 - Collaborating with AI use-case providers, AI vendors, and research stakeholders from the fields of machine learning, XAI, user experience, and human factors.
- 2015.07-
2017.07
and
2014.05-
2014.07
- Calcutta Electric Supply Corporation (CESC) Limited, Kolkata, India**
Software Engineer for Web-applications; Database Programmer
Summer Intern (2014.05 – 2014.07) – Best Internship Project Award
- Designed, developed, and administered **big-data** driven **web-applications** for **financial reporting** and **process-management**

EDUCATION

- 2017-
2023
- Doctor of Philosophy**
School of Information, University of Texas at Austin, USA
Dissertation title: *LongSAL: A Longitudinal Search as Learning Study with University Students*
- 2011-
2015
- Bachelor of Engineering (Computer Science & Technology)**
Indian Institute of Engineering Science and Technology (IIST) Shibpur, India
GPA 8.85 / 10.00 (First Class with Honours)

SKILLS

UX / User Research: *eye-tracking lab studies, remote and longitudinal studies, crowdsourcing studies*

Web development: *Browser Extension, PHP, Java, ASP.NET C#, WordPress, Bootstrap, HTML, CSS, JavaScript, jQuery*

Data Visualization: *Plotly Dash, Highcharts.js, Matplotlib*

Database: *MySQL, Oracle, PL/SQL, Microsoft SQL Server*

Data Science / Machine Learning / Deep Learning: *Python, Keras, TensorFlow, Scikit-learn, NumPy, Pandas*

Quantitative Analysis: *statistical analyses, hypotheses testing, Stata software*

MAJOR RESEARCH PROJECTS

- 2018.01-
Present
- Interactive Information Retrieval, Search as Learning**
- **Dissertation research:** longitudinal study to correlate search-behaviour with knowledge-gain (**ASIS&T 2022 Doctoral Dissertation Proposal Scholarship Award** for the most outstanding proposal)
 - **Prior work:** Analysed **eye-tracking** and **search-interactions** data, to predict document-relevance (using CNNs), and assess knowledge-gain (using word-embedding)
 - Developed **browser extension** ([GitHub link](#)) and **data-visualization** tools ([link to eye-tracking-viz](#))
 - **Publications:** SIGIR 2021; CHIIR 2021, 2020, 2019; ETRA 2018
- 2018.01-
2019.06
- Crowdsourcing & visualizing large datasets for Computer Vision & Deep Learning**
- Developed and delivered a **pipeline** for **crowdsourcing**, storing, and **visualizing** annotations for large-scale **Computer Vision** and **NLP datasets for Human-Computer Interaction (HCI)**
 - Delivered **3 annotated datasets** for **~40,000 images** each
 - Delivered **data-visualization** tool: vizwiz.org/browse (preprint: [arXiv:1912.09336](https://arxiv.org/abs/1912.09336))
 - **Publications:** CSCW 2020 (**Honourable Mention Award**); ECCV 2020; ICCV 2019

SELECTED PUBLICATIONS ([Full list in Google Scholar](#))

Paper Awards: **3** • *h*-index: **9** • *i10*-index: **7** • Citations: **427** (across all publications)

1. **Bhattacharya, N.** LongSAL: A Longitudinal Search as Learning Study with University Students. In *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems (CHI 2023)*.
2. Shi L., **Bhattacharya N.**, Das A., Lease M., & Gwizdka J. The Effects of Interactive AI Design on User Behavior: An Eye-tracking Study of Fact-checking COVID-19 Claims. (**CHIIR 2022**).
3. Jain, P., Ibtasam, S., Sharma, S., **Bhattacharya, N.**, Tuli, A., Gamage, D., ... & Singh, P. From the Margins to the Centre: Defining New Mission and Vision for HCI Research in South Asia. In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (CHI 2021)*. (**co-led an international team of 17 researchers**)
4. Zheng X., Wang Y., Chiu T., **Bhattacharya N.**, & Gurari D. Vision Skills Needed to Answer Visual Questions. *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2020)*. **Honourable Mention**
5. **Bhattacharya N.**, Rakshit R., Gwizdka J., & Kogut P. Relevance Prediction from Eye-movements Using Semi-interpretable Convolutional Neural Networks. *Conference on Human Information Interaction and Retrieval (CHIIR 2020)*.
6. Ebeid I. A., **Bhattacharya N.**, Gwizdka J., & Sarkar A. Analyzing Gaze Transition Behavior Using Bayesian Mixed Effects Markov Models. *Symposium on Eye Tracking Research and Applications (ETRA 2019)*. **Best Short Paper**

AWARDS, HONOURS, FELLOWSHIPS (selected)

ACM SIGIR Student Travel Grants: *SIGIR 2021, CHIIR 2021, CHIIR 2020, CHIIR 2019*

ACM SIGCHI Student Travel Grants: *CHI 2023, ETRA 2020*

DAAD (German Academic Exchange Service) Scholarships: *RISE 2022, RISE 2018*

- 2023 2nd Place, ACM SIGCHI Student Research Competition, *Association for Computing Machinery*
- 2022 ASIS&T Doctoral Dissertation Proposal Scholarship, *Association for Information Science & Technology*
- 2022 David Bruton Graduate Fellowship, *University of Texas at Austin – Graduate School*
- 2017 Runner up, Smart India (National) Hackathon, *Govt. of India* (**mentored a six-member student team**)

INVITED TALKS, TEACHING, SERVICE (selected)

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|------------------------------|--|
| Invited Talks | <ul style="list-style-type: none">• PhD Connect, <i>ACM SIGIR Virtual Forum</i> (2023.12)• DAAD Gilman and RISE Meeting, <i>Berlin, Germany</i> (2023.11)• Interactive Information Retrieval, <i>ACM SIGCHI Mumbai Chapter Meeting</i> (2021.08)• Study Texas, <i>EducationUSA, US Dept. of State</i> (2021.07) |
| Teaching Assistant | Quantifying User Experience, Fall '20, online: graduate level statistics course for UXR |
| Peer Reviewing | IP&M; JASIST; IWC; JLIS; Neurocomputing; CHIIR; ETRA; IWILDS; IndiaHCI |
| Student Volunteer | CSCW 2021; NSF RETTL CIRCLS 2021 |
| University Committees | Faculty Search Committees (2018, 2020, 2021); Doctoral Student Association (2017) |
| Website Manager
webmaster | <ul style="list-style-type: none">• <i>HCI for South Asia</i> Research Community: hci4south.asia (2020 - Present)• Texas Ballroom: texasballroom.org (2021 - 2023)• <i>VizWiz</i> Project: vizwiz.org (2019 - 2021) |
| Languages | English, Bengali, Hindi |