Dr. Nitish Patkar

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Experienced Research Associate with a strong background in requirements engineering, digital transformation, and UX design. I am passionate about creating products that stand the test of time through ethical and sustainable design practices. My expertise spans across managing industry collaborations, guiding teams through agile methodologies, and instructing at the university level. I am eager to contribute to innovative projects within a multi-cultural team, where the human aspect of technology is prioritized.

Education

Ph.D.
2018 - 2022
University of Bern, Switzerland

M.Sc.
2014 - 2018
University of Paderborn, Germany

B.E.
2009 - 2012
University of Mumbai

Skills

- Requirements engineering
- Digital sustainability
- UX
- Innovation management

- German (business fluent),
- English (business fluent),
- Hindi (native),
- Marathi (native)

- Javascript, typescript, Python, Smalltalk
- Angular, React, Django

Activities

- Member of the special interest group on digital sustainability at international requirements engineering board (IREB)
- Programm committee member of several international conferences like REFSQ and RE, and ICT4S
- Reviewer of several international scientific journals like SoSci, RE, IST, and EMSE
- Local chair of XP2025 conference

Career summary

Research Associate
March 2022 – present
University of Applied Sciences and Arts North-western Switzerland (FHNW)

- Successfully led multiple industry collaborations, overseeing projects from problem identification to solution validation.
- Acted as an Agile Coach for Industry Projects (Semester 3 & 4 total 2 teams) and Team Coach for Internal Projects (Semester 1 total 1 team) with a focus on the Rational Unified Process (RUP).
- Co-instructed Bachelor's level courses in Requirements Engineering and contributed to the CAS program in Digitalization and Sustainability.

Research Assistant
February 2018 – February 2022
University of Bern, Switzerland

- Led the Software Engineering Project for four years, mentoring 50-60 students annually through requirements specification, prototyping, implementation, and testing phases.
- Independently instructed the Seminar in Software Engineering (BSc/MSc), where I guided more than five students in exploring research trends and developing advanced, prototypical solutions.

Web Developer
2017 - 2018
ActiDo GmbH, Paderborn, Germany

- Developed a proof-of-concept web application using React, translating provided designs into functional and responsive front-end code with HTML, CSS, and React.

Research Assistant
2016 – 2018
University of Paderborn, Germany

- Collaborated with clients from Volksbank and the university sports department to gather requirements for a sports application.
- Developed a single-page application using Angular and Django Rest Framework, providing a functional prototype for the employees at Volksbank.

Systems Engineer
2012 - 2014
Infosys Ltd., India

- Contributed to a team working on product lifecycle management (PLM) platforms, including Windchill.
- Played a key role in developing a web application for Cox Communications, a US-based client.

Innovation projects

Yappi

In this project, we developed "yappi," a software that combines self-reporting with AI-driven analysis to boost productivity in agile teams while supporting developers' well-being. By integrating GitHub contributions with happiness data, yappi provides a comprehensive view of team dynamics, helping teams track and improve their workflows.

REQify

In this project, we developed "REQify," a tool that leverages generative AI to enhance the efficiency of Requirements Engineers in remote workshops. REQify transcribes discussions, identifies contradictions, and assists in writing user stories, reducing documentation time and improving accuracy. This AI integration strengthens collaboration between humans and technology in software development.

Olanga Marketplace

In this project, we addressed the operational challenges of Olanga AG, a company dedicated to reducing food waste by connecting producers and consumers of individually grown fruits and vegetables. We developed and refined the "Olanga Admin-Tool," a web app that streamlines customer management and automates administrative tasks. These efforts collectively improved efficiency and scalability for Olanga AG.

EquiApp

In this project, we developed "EquiApp," a mobile app that brings real-time, AI-driven analysis to the racehorse industry. The app offers customizable horse profiles and seamless data integration, helping traders make informed decisions. Though still a minimum viable product, EquiApp shows strong potential to modernize racehorse trading.

CEEX

In the CEEX projects, we enhanced a platform for trading locally produced clean energy. We integrated dynamic energy data for real-time trading and developed a feedback library to analyze user interactions, improving functionality and enabling continuous user-driven enhancements.

Watersense

The "Watersense" project by Artha aims to revolutionize water treatment with real-time, remote analysis of water quality data. We implemented an advanced UV-spectrometer system that uploads data to a cloud platform for analysis through customizable dashboards. The project also evaluated and chose the best cloud hosting platform based on cost, maintenance, and scalability.

Research projects

Sustainable and usable LLM chatbot

Accepted at MuC 2024, our paper examines the usability of generative AI tools like ChatGPT, focusing on prompt management. From a survey of 61 users, we identified the need for better search functions and labeling. We also highlight how efficient prompt management can reduce AI's environmental impact, promoting more sustainable AI practices.

Data-driven persona management

Our paper, submitted for SNSF BRIDGE funding, introduces a data-driven approach to automate and continuously update personas using user feedback and monitoring data. This method aims to make persona development more efficient and accurate, improving user experience while reducing redundant efforts for greater sustainability.

Data-driven implementation of features

This project aims to develop a data-driven method to estimate the human and time resources needed for new software features. By analyzing historical data, we seek to improve resource estimation and train AI models for better predictions. Our goal is to make feature development more efficient and accurate.