

# Arash Goodarzi

I am a dedicated interaction designer and full-stack developer with a passion for building and optimizing interactive systems, websites, and applications. My research pertains to understanding how Human-Computer Interaction (HCI), Extended Reality (XR), and Artificial Intelligence (AI) technologies mediate user interactions and experiences. I approach my work through a multidisciplinary lens that integrates computer science and AI with HCI approaches. I am particularly interested in developing innovative interaction techniques within immersive environments, aiming to create solutions that enhance user experience and interaction effectiveness.

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## EDUCATION

### Umeå University

Human Computer Interaction and User Experience - Distinction 2023 - 2025

### Shiraz Bahonar University

Bachelor of Computer Engineering Majored in Software - 3.5/4 2013 - 2016

## SKILLS

- Prototyping, User Experience Research, Mixed-methods (Qual+Quant), Data Analysis
- C#, OOP, Unity Engine, Virtual reality (VR), Mixed reality (MR)
- Python, Machine Learning, Reinforcement Learning, Human-AI Interaction
- Node.js, TypeScript, NestJS, Docker, React.js
- Soft Skills: Teamwork, Attention to detail, Problem-solving, Creativity, Leadership, Work Ethic

## WORK EXPERIENCE

### Umeå University

Teaching Assistant Jan 2024 - Present

- As a teaching assistant in the Department of Computing Science, I contributed to the following courses, providing lecturing, coding tutoring, marking, and educational content design:
- Human-Computer Interaction
- Data Structures and Algorithms (Python)
- Interaction Techniques
- Development of Mobile Applications

### Danish Trading Company

Full-Stack Web Developer Aug 2021 – Dec 2023

- Built business management software to manage sales, marketing, analytics, reports, billing/invoicing, and inventory management, which significantly improved the efficiency of processes in the company.
- Technologies used: NestJs, React, Typescript, Chakra UI, MySQL, TypeORM, mTLS, Machine Learning, and Docker.
- The following is a demo video and screenshots of the web app:  
[arashg.dev/projects/danish-business-management-platform](https://arashg.dev/projects/danish-business-management-platform)

### Grasp Startup

Full-Stack Web Developer and Co-Founder Apr 2021 - Aug 2021

- I worked with two other co-founders to develop the start-up. Because it was a startup, I had different responsibilities, from coding to working and refining product ideas and documentation.
- I also build Edu-Editor for the Grasp's block-based rich text editor:  
[github.com/kiaksarg/edu-editor](https://github.com/kiaksarg/edu-editor)

- Built web applications using ASP.NET Core, MVC, and SQL Server, such as a multilingual news/blog system and an office automation system for government services.

Multilingual News & Blogging System

## PROJECT

### **Master's Thesis: Novel Head Rotation Gain Techniques for Seated VR (Umeå University)** June 2025

- Designed, implemented (Unity), and evaluated two novel head rotation amplification techniques (user-empowered manual & adaptive automatic).
- Conducted mixed-methods user evaluation (N>30), analyzing quantitative metrics (performance, workload, cybersickness) and qualitative interviews (thematic analysis) to assess user experience, orientation, immersion, and perceived control.  
arashg.dev/projects/rotation-gains

### **Blossom-Buddy**

Autumn 2023

- Having a Research Through Design (RtD) approach, I made and worked on Blossom-Buddy, which is a product to explore the possibility of shaping and changing users' behaviors through the human tendency to care about living things. It is an interactive flowerpot designed to help users achieve their goals and develop positive habits. It leverages the human tendency to care for living things, encouraging users to take care of their plants by completing their tasks. Techniques used are User Interviews, User Testing, Experience Prototyping, and the Wizard of Oz.  
arashg.dev/projects/blossom-buddy

### **Edu-Editor**

Jul 2021

- Edu-Editor is a basic medium/notion like rich-text-editor based on the Slate.js framework. The project is open source:  
Github repository, Demo

### **NestJS GraphQL Best Practice**

Jun 2022

- This project is a best practice and real-world example of the GraphQL code-first approach in Nest.js.
- Features: Pagination (cursor-based and offset-based), sorting, filtering, full-text search, database seeding, solving the n+1 problem with Dataloaders, relations, and joins in Typeform.  
Github repository

## AWARDS & HONORS

### **Government Scholarship**

- Awarded full funding for B.Sc. in Computer Engineering (2013–2016) after ranking 111th out of 27,532 participants in the Nationwide Bachelor's Entrance Exam (Computer, Code 210), National Organization for Educational Testing, Iran.

### **1st-Place Winner, Reinforcement Learning Competition**

- Winner of the course-wide competition for Artificial Intelligence: Methods & Applications (HT24), Department of Computing Science, Umeå University, January 2025.  
- Reinforcement Learning Tournament Certificate

## References

- Viktor Kaptelinin, Professor at Department of Informatics, Umeå University, Tel: +46 090-786 59 27, Email: victor.kaptelinin@umu.se
- Anders Lundström, Associate professor at Department of Informatics, Umeå University, Tel: +46 90 786 75 24, Email: anders.lundstrom@umu.se
- Patrik Björnfort, Associate Professor at Department of Informatics, Umeå University, Email: patrik.bjornfort@umu.se