Ehsan Jahangirzadeh Soure

Software Engineer | Master in Computer Science, University of Waterloo | 2+ Years of Experience
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Technical Skills

Languages	Python, JavaScript, TypeScript, C/C++, Rust, Java, SQL, HTML/CSS
Web App Dev	React.js, Node.js, Redux, Three.js, D3.js, Socket, Jest, GraphQL, PostgreSQL, MongoDB, REST API
Technologies	Kubernetes, Docker, CI/CD, Linux, Nginx, WebGL, PyTorch
HCI	UI/UX Design, Quantitative/Qualitative study, Mixed method studies

Work Experience

Huawei - Human Computer Interaction Research Intern — Sep 2022 - Dec 2022
- Implemented a Chinese calligraphy-inspired watercolor painting application using React, WebGL, and Shaders.
- Visualized brush and bristles utilizing pen metadata using React, Three.js, and Node.js for a realistic feeling.
- Developed physics-based brush and canvas interaction using React, Cannon.js, and Three.js.
- Conducted semi-structured interviews with artists to learn watercolor techniques and obtain feedback on prototype.

Parallel Studios - Software Engineer Intern — May 2022 - Aug 2022
- Implemented redeemable workflow for NFT-represented hoodies using Next.js, 90% of NFT holders redeemed.
- Developed wallet transactions and connection to the smart contract using ABI for redeemable flow.
- Developed wallet-based support flow using Next.js, Ether.js, and Django, facilitating account data retrieval.
- Migrated legacy codebase from Django/Javascript to Next.js/Typescript, improving page loading time by 40%.

Hamravesh - Software Engineer — Aug 2018 - Dec 2020
- Visualized real-time inter-datacenter connections with D3.js for greater transparency; 60% reduction in support tickets.
- Designed and deployed an interactive visualization of the Kubernetes infrastructure, thereby enhancing the service's explainability, enhancing its presentation, and facilitating the onboarding of new DevOps members.
- Developed a responsive uptime monitoring dashboard for end-to-end monitoring and incident management.
- Built infrastructure for unit testing to test products using Jest and Enzyme, decreased user-reported issues by 10%.
- Redesigned customer support flow and ticketing website based on communication with DevOps team, 50% fewer tickets.
- Hosted internal talkshow during the pandemic to help company members maintain mental health and know each other.
- Initiated knowledge base and documentation platforms using Wiki.js and Docusaurus, improved onboarding procedure.

Research Experience

Graduate Research Assistant at University of Waterloo, Canada — Jan 2021 - Dec 2022
- Designed and developed computer-supported cooperative technologies to enhance Human-Human and -AI collaboration.
- Conducted qualitative and quantitative studies and analysis to validate the usefulness of designed systems, resulted in 1 accepted paper and 2 submitted papers. - CoUX: Collaborative Visual Analysis of Think-Aloud Usability Test Videos for Digital Interfaces | Published in VIS21

Projects

Eemoji | Video
Designed and implemented animated and vibrated emoji-enhanced text messaging using CNN based pre-trained model for smartwatches to better convey emotion captured and detected from the user input voice.

RecoMovie | Website
Designed and developed human-centered Explainable Artificial Intelligence(XAI) interface for a movie recommender project; the recommender is developed similarly to Akinator using Machine Learning Algorithms and utilizing various interactive visualizations to make a black box model explainable.

Prompter | Code
Implemented text editor empowered with Natural Language Processing (NLP) using the BERT algorithm on PyTorch to assist writers in overcoming writer's block by posing questions about characters in their story.

Education

Master of Mathematics in Computer Science at University of Waterloo, Canada — Jan 2021 - Jan 2023
Bachelor of Science in Electrical Engineering at University of Tehran — Sep 2015 - Jun 2020

Certificates

Oct 2022	Google: Foundations of User Experience (UX) Design
Aug 2021	University of Toronto: THAI 2021 Research School