

LANCE LARSEN

Middleton, WI | lance@lancelarsen.com | www.lancelarsen.com | 608.354.9077

SUMMARY



Proven **Senior XR Architect, Unity / .NET Developer & Team Lead** with over 15 years of experience in leadership, decision-making, strategic technology planning, team management, research and development, and hands-on project completion.

Microsoft MVP (Most Valuable Professional) in the Mixed Reality MVP category. **Awarded MVP 6 times.**

Passionate about **XR (eXtended-Reality)** technologies. Virtual and Augmented Reality interfaces are the **inevitable future of how humans will interface with computational power and meta information** about the real and virtual worlds around them!

Track record of quickly taking on new projects and applying **innovative solutions to make them succeed**. Focus on guiding projects from **concept to production** - building teams, team's skills and the process to make the **project and company successful**.

Especially skilled in and enjoys **mentoring team members** so everyone is working with the highest level of knowledge, thus achieving both their individual and team objectives within an **agile development** environment.

Excellent design, engineering and communication skills with an outstanding analytical, optimistic, friendly and creative nature.

Aggressively pursues knowledge of **emerging technologies**, with a passion for continual self-improvement.

Emphasis on **giving back to the community** through leadership and volunteering. **President of the Madison .NET User Group** (www.MADdotNET.com), community speaker at conferences / groups about XR technologies **around the world!** Active **blogger on XR** at www.LanceLarsen.com.

Master's Degree in Computer Science & Applied Mathematics
Bachelor's Degree in Mechanical & Aerospace Engineering



Unity



SKILLS, KNOWLEDGE & ABILITIES

Technologies

- Microsoft Visual Studio 2022
- Unity 2022, 2021, 2020, 2019
- C# 11 (C# 9 in Unity 2022.3+)
- SQL Server 2022
- Blender 3
- GitHub Versioning & Collaboration
- Microsoft Azure Services
- A.I. / Machine Learning
- A.I. Enhanced Coding (ChatGPT / Bard)

Frameworks

- OpenXR
- MRTK 2.8 (HoloLens)
- Oculus Integration for Unity
- .NET Framework 7.0
- Blazor WebAssembly

Key Leadership Skills

- Team Lead
- Development Mentor
- XR Trainer
- Agile Project Management
- Community XR Presenter
- Community Organizer

Key Development Skills

- XR Architecture / Developer
- .NET Architecture / Developer
- UI and UX Design
- Database Architecture / Design
- Full Development Lifecycle
- Usability Design / Acceptance

Hardware

- Microsoft HoloLens 2
- Meta Quest Pro
- Meta Quest 2
- Kinect
- Microsoft Mixed Reality
- Android
- Robotic Design / Engineering

Background

- US Citizen
- Certified Government Background Check

Hobbies / Community

- Community User Group Leader
- FIRST Robotics Coach
- 3D Printing / Design

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EXPERIENCE



Jan, 2022 – April, 2023

Hoth Intelligence (HothIntel.com) – Remote

Director of XR / Senior XR Architect

[Unity 2022, HoloLens 2, OpenXR, Machine Learning, Visual Studio 2022, C#, Azure]

ApolloVis – Holographic Neurosurgery

"Every medical procedure performed, begins with what you can see."

- **Holographic medical vision for Neurosurgeons**
- **HoloLens 2** mixed reality headset provides an immersive, hands-free computing experience
- View 3D renderings of medical scans such as MRIs overlaid onto a live patient's anatomy
- Viewing of internal organs, bones, and other structures in a more intuitive and natural way
- Used in both **pre-operative planning** and **live surgery**
- **Developed from concept up to initial FDA approval**
- QR code instrument tracking
- Utilized **Research Mode** on HoloLens to take advantage of depth point capture arrays, combined with **ICP algorithm** running in an Azure API service to place holograms over patient with <5mm offset accuracy



Jan, 2016 – Present

HoloSoft (HoloSoft.com) – Middleton, WI

Director of XR & Metaverse

[Unity 2022, HoloLens 2, Meta Quest Pro, Meta Quest 2, OpenXR, Visual Studio 2022, C#, Azure]

- At HoloSoft we believe that XR interfaces are the **inevitable future of how humans will interface with computational power and meta information** about the real and virtual worlds around them!
- Consulting and advising companies on XR technologies
- Building VR application for **Lakota Indian tribe** – focus on immersive storytelling and cultural preservation of oral traditions around constellation mythology
- Built VR application for **Menominee Indian tribe** – focus on immersive language learning, language preservation and educational customization of curriculum for students
- Built AR application for **SubZero and Wolf Appliances** – allowing for AR high fidelity rendering of high-end appliances for trade shows and customers
- Built AR / VR application for the **Jules Verne Stage Experience** – introduction AR application for illustrating the immersive potential of XR for stage musical productions
- Built VR application for **Macular Degeneration Simulation** – trade show simulation of advancing macular degeneration



May, 2020 – Present

ErgoFactor (ErgoFactor.com) – Remote

CTO – Chief Technology Officer

[Visual Studio 2022, Blazor WebAssembly, C#, Azure]

- From concept to production, build an industry leading ergonomic job analyses software
 - Core application supporting multi-million-dollar ergonomics software and consulting company
 - Latest version being built with Blazor WebAssembly
 - Microsoft Azure App and SQL Server
 - Spoke at **multiple national ergonomic conferences** on "Emerging Technologies and the Future of Industrial Ergonomics", including A.I., Machine Learning Vision Detection and Robotics
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Mar, 2008 – Present

Madison .NET User Group (MADdotNET.com) – Madison, WI

President of the Madison .NET User Group - MADdotNET

A community of peers focused on connecting individuals with a love of learning and a drive to network with other .NET technology professionals and enthusiasts.

- Meetup group with **over 1000 members**
- Created an **inclusive and open environment** which facilitates community
- Focus on presenting on a broad spectrum of **existing and emerging technologies**
- Encourages members to learn to present to **grow their confidence and skills**
- Established a strong network of development professional that can be called upon to support one another both technically and professionally



Mar, 2012 – Present

That Conference (THATconference.com) – Wisconsin Dells, WI

THAT Conference "Summer Camp for Geeks" Organizer

- One of the original organizers of THAT Conference
- Among the **largest developer conference in the mid-west**
- THAT Conference is unlike any other technical conference. This unique four-day summer camp is full of workshops, sessions, open spaces, family events, and networking, all nestled in the gorgeous Kalahari Resort and Waterpark
- This **family-friendly event** is comprised of **professional** and **family tracks**, so there is something to learn and experience at all ages
- Last year and this year will be **teaching "Building your XR Application" Workshop**



August, 1995 – August, 1997

Illinois Institute of Technology – Chicago, Illinois

Research / Teaching Assistant for Computer Science & Applied Mathematics

- Parallel processing prediction algorithm analysis and modeling utilizing MPI (Message Passing Interface) parallel communication language
- Taught classes, designed curriculum and projects
- Received the Clinton E. Stryker Distinguished Service Award



May, 1994 – August, 1994

NASA Glenn Research Center – Cleveland, Ohio

NASA Internship

- Designed and implemented a Thermodynamic data visualization package
- Received the highest accolades and rating possible for internship from the professor

EDUCATION



1997

Illinois Institute of Technology – Chicago, Illinois

Master Degree in Computer Science & Applied Mathematics

- Graduated with High Honors

1995

Illinois Institute of Technology – Chicago, Illinois

Bachelors of Science in Mechanical & Aerospace Engineering

- Graduated with Honors