Alexander Giovannelli

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SUMMARY

My research interests lie in the intersections of Human-Computer Interaction (HCI), Augmented/Virtual Reality (AR/VR) and 3D User Interfaces (3DUI). My current research focuses on affective visualizations during collaboration using AR/VR technologies. I'm investigating visualization techniques to understand their potential impact on multi-user collaborative tasks.

EDUCATION

Virginia Polytechnic Institute and State University Aug. 2021 – May 2026 (Expected)
Ph.D. in Computer Science, GPA: 4.00 Blacksburg, VA

- **Research Group**: 3D Interaction Group
- **Advisor**: Doug A. Bowman

University of Cincinnati Aug. 2013 – May 2018
Bachelor's of Science in Computer Engineering, GPA: 3.30 Cincinnati, OH

- **Minors**: Computer Science, German Studies

EXPERIENCE

Virginia Polytechnic Institute and State University May. 2022 – Aug. 2022
Graduate Research Assistant Blacksburg, VA

- Submitted research for publication regarding impact of visual information fidelity on typing in immersive virtual environments
- Conducted research regarding avatar visualizations in AR collaboration
- Generated prototype applications and experimental studies for future evaluation

Virginia Polytechnic Institute and State University Aug. 2021 – May 2022
Graduate Teaching Assistant Blacksburg, VA

- Provide assistance to undergraduate students during scheduled office hours regarding course-related content
- Responsible for honor code auditing in accordance with University policy via an automated code review process
- Proctor in-person and online examinations

JPMorgan Chase & Co. Jul. 2018 – Jul. 2021
Associate Software Engineer Columbus, OH

- Developed front-end features for Chase.com using JavaScript, HTML, and CSS technologies
- Designed and implemented minimum viable product user interfaces via Figma design tool
- Authored technical documentation for product owners and developers
- Appointed subject matter expert in behavioral-driven development and CI/CD initiatives
- Automated logging of proprietary systems using the Python programming language

Siemens Healthineers Jan. 2017 – Aug. 2017
International Software Engineering Intern Forchheim, Germany

- Developed back-end software for use in advanced therapy devices using the C# programming language
- Created system architecture diagrams to record project design changes and behaviors with Sparx Enterprise Architect
- Represented project team in international software system integration meetings

Granville Exempted Village Schools May 2016 – Jul. 2016
Systems Administrator Intern Granville, OH

- Provisioned Windows and Linux server and workstation systems to support school network infrastructure
- Administered changes to proprietary devices regarding operating system applications, packages and images
- Managed summer technician team operations

Matrix Technologies, Inc. Aug. 2015 – Dec. 2015
Computer Programmer and Systems Analyst Intern Maumee, OH

- Created full-stack internal software tools for engineers and project managers using C#, XML and SQL technologies
- Updated existing project management software according to submitted user feedback
- Authored software usage documents to elaborate on internal tool usage

Matrix Technologies, Inc. Aug. 2014 – Dec. 2014
Computer Programmer and Systems Analyst Intern Maumee, OH

- Enhanced existing proprietary software using the C# programming language
- Researched emerging technologies and presented potential process improvements for development team
- Coordinated project design changes with stakeholders

PROJECTS

Clean the Ocean: An Immersive VR Experience Oct. 2021 – Mar. 2022
Research Project IEEE VR 2022 Contest Winner

- **Summary**: Adapted and enhanced two classic interaction techniques, Go-Go and World in Miniature (WiM), to provide an engaging mini-game in which the user collects trash in the ocean
- **Discipline**: Human-Computer Interaction, 3D interaction techniques
- **Technologies**: C#, Unity, HTC Vive, Oculus, OpenXR

User Experience Study of Multimodal Interactions in VR Jan. 2021 – Present
Research Project

- **Summary**: An in-progress user study to evaluate multimodal input device interactions in virtual environments
- **Discipline**: Human-Computer Interaction, 3D interaction techniques
- **Technologies**: C#, Unity, Varjo, SteamVR

Smart Quality of Light in VR Jan. 2021 – Present
Course Project

- **Summary**: A VR experience that allows users to quickly and easily visualize lighting fixture placement and its impact within virtual environments
- **Discipline**: Human-Computer Interaction, 3D user interfaces
- **Technologies**: C#, Unity, Oculus, OpenXR

Empirical Evaluation of Web Applications using JavaScript and WebAssembly Aug. 2021 – Dec. 2021
Course Project

- **Summary**: Creation of WebAssembly and JavaScript workbench for evaluation of programming language execution time and energy efficiency
- **Discipline**: Software Engineering
- **Technologies**: Go, JavaScript, Rust, HTML/CSS, Git

SKILLS

Programming Languages : JavaScript, C#, Java, Python, Go, HTML/CSS
Tools : Unity, Git, Jira, Figma, Cucumber, Azure DevOps Server