Alexander Giovannelli

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Education

Virginia Tech — Blacksburg, VA, USA
Ph.D. in Computer Science advised by Doug A. Bowman, GPA: 4.00/4.00 — Aug. 2021–Current

University of Cincinnati — Cincinnati, OH, USA
B.S. in Computer Engineering with German Studies minor, GPA: 3.30/4.00 — Aug. 2013–May 2018

Skills

Programming Languages: C#, JavaScript, Java, Python, HTML, CSS

Development Tools: Unity, Git, Jira, Blender

Research Tools: JMP, SPSS, LaTeX

Experience

Virginia Tech — Blacksburg, VA, USA
Graduate Research Assistant — May 2022–Aug. 2022

- Published research study results regarding intermittent typing in immersive virtual reality using C#, Unity, Python, JMP, & SPSS technologies
- Conducted research under the supervision of Doug A. Bowman regarding avatar visualizations in augmented and virtual reality collaboration
- Generated prototype applications and experimental studies using C# and Unity technologies

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

- 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 — Forchheim, BY, DE
Software Engineer Intern — Jan. 2017–Aug. 2017

- 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 using German and English languages

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

- 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. Maumee, OH, USA
Computer Programmer and Systems Analyst Intern Aug. 2015–Dec. 2015

- 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. Maumee, OH, USA
Computer Programmer and Systems Analyst Intern Aug. 2014–Dec. 2014

- 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

- Virtual Avatar Reaction Visualizations in VR Jun. 2022–Current
  Developing an immersive virtual environment for conducting user studies regarding visualizations of avatar reactions in collaborative scenarios
- Environment for Intermittent Typing Experiments in VR Jan. 2022–May 2022
  Created a virtual environment with mixed reality capabilities with varying physical keyboard placement visualizations for conducting user studies
- Smart Lighting Design in Immersive VR Jan. 2022–Apr. 2022
  Developed methods and techniques to support smart, real-time lighting design in an immersive virtual reality experience using Unity and C# technologies
- Clean the Ocean: An Immersive VR Experience Oct. 2021–Mar. 2022
  Created an immersive virtual reality experience to increase players' awareness of trash pollution in the ocean while improving the Go-Go and World in Miniature interaction techniques using Unity and C# technologies

Publications

[1] **A. Giovannelli**, L. Lisle, and D. A. Bowman, "Exploring the impact of visual information on intermittent typing in virtual reality", in *2022 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, 2022.

[2] L. Lisle, F. Lu, S. Davari, I. A. Tahmid, **A. Giovannelli**, C. Llo, L. Pavanatto, L. Zhang, L. Schlueter, and D. A. Bowman, "Clean the ocean: An immersive vr experience proposing new modifications to go-go and wim techniques", in *2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, 2022, pp. 920–921.

[3] E. Mohammadrezaei, **A. Giovannelli**, L. Lane, and D. Gračanin, "A digital twin based approach to smart lighting design", in *2022 Winter Simulation Conference (WSC)*, 2022.

Scholarships and Awards

- Honorable Mention for Best IEEE ISMAR 2022 Conference Paper [1] 2022
- Best 3DUI Contest Entry [2] 2022
- International Co-op Program Scholarship 2016–2017
- Matrix Technologies, Inc. Co-op Scholarship 2014–2016
- Cincinnatus Scholarship 2013–2014

Teaching

- **Graduate Teaching Assistant** at Virginia Tech — Fall 2022
  Comparative Languages (CS-3304)
- **Graduate Teaching Assistant** at Virginia Tech — Fall 2021 & Spring 2022
  Software Design & Data Structures (CS-2114)

Organizations

- Member at Computer Science Graduate Student Council — 2021–Current
  Represented the interests of the CS graduate student body both within the department and outside, helped organize social events among graduate students, and helped incoming students become familiar with departmental procedures and activities