JULIAN BAUER

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EDUCATION

University of Maryland, College Park *Master of Science in Human-Computer Interaction* May 2027

Auburn University *Bachelor of Science in Computer Science* May 2025
Minor in Business
In-Major GPA: 3.80, Cum Laude

SKILLS

Languages: C#, Java, Python, C++, HTML/CSS, JavaScript, React, R
Frameworks/Tools: Git/GitHub/GitLab, PostgreSQL, Pandas/BeautifulSoup, Docker, Render, Supabase, Figma, Miro, Framer
XR Development: Unity, OpenXR, MRTK
Artificial Intelligence: GPT, Claude, HuggingFace, LangChain, ElevenLabs, Cline, SciKit Learn, PyTorch, TensorFlow

EXPERIENCE

Auburn University Subject Matter Experts (AUSME) - *Software Development Engineer Intern*, Auburn, AL January 2025 - May 2025
- Improved efficiency in collegiate cross-disciplinary research team formation by 3,333% leading a team of three engineers in the development of AURAS: Auburn University's AI-driven research assignment platform.
- Yielded 90% accuracy in team composition, as measured by manual cross-evaluation of team members and derived subject matter, via a sophisticated backend constructed with PyTorch, HuggingFace tools, and the Microsoft Phi-2 SLM.

Auburn University Program Understanding Lab - *UX Design Researcher*, Auburn, AL April 2023 - May 2025
- Advanced understanding of binary disassembly data among security analysts, reflected through 5% efficiency improvement in user evaluations over existing BRE methods, by building immersive 3D software visualizations in Unity with the Microsoft Mixed Reality Toolkit (MRTK).
- Published peer-reviewed papers in IEEE and I/ITSEC, showcasing the Unity-based 3D visualization approach and reaching 3,000+ attendees, which accelerated potential adoption of the method across three defense research labs.

FanaticusXR - *XR Development Intern*, Remote September 2022 - April 2023
- Enabled meaningful remembrance experiences, validated by a 90% positive approval rating on respectfulness and ease of use in user testing, by architecting a virtual-reality memorial that lets loved ones contribute images and convene in shared digital gatherings.
- Secured strong investor enthusiasm, demonstrated by favorable funding meetings and a 50% expansion in Memorial Gardens team size, by conceptualizing and designing the immersive memorial garden and intuitive UI elements for the VR platform.

PROJECTS

geosurfing.net
Technologies: BeautifulSoup, Httpx, PostgreSQL, Supabase, Gunicorn, Flask, Render, React, HTML/CSS
- Developed and deployed a historical search engine for archived GeoCities webpages by engineering a custom web crawler, indexing scripts, and a static front end, currently attracting ~1000 unique visitors yearly.
- Achieved continuous site availability and reliable performance by utilizing Render's cloud deployment services, as measured by an 90% retention in weekly user counts.

jcbauer.neocities.org
Technologies: React, HTML/CSS
- Delivered a visually striking nostalgic personal website, measured by its 400+ unique visitors from over 20 different countries, by styling with the 7.css framework and coding intricate JavaScript animations.
- Features a comprehensive portfolio alongside advanced analytics to identify and visualize the geographic distribution of site visitors.

PUBLICATIONS

"Interaction Design for Binary Reverse Engineering in Virtual Reality" - VISSOFT 2024
Dennis Brown, Julian Bauer, Luke Wittbrodt and Samuel Mulder
- Co-authored the tool paper that unveils CogBRE, a modular VR workspace that pulls data from Oxide, Ghidra, angr, and Capa to render call-graphs, control-flow graphs, and scrollable disassembly "slates" as movable 3-D widgets.

"A Cognitive Approach to Improving Binary Reverse Engineering with Immersive Virtual Reality." - I/ITSEC 2024
Dennis Brown, Julian Bauer, Kevan Baker, Luke Wittbrodt, and Samuel Mulder
- Co-authored the proposal paper that performs the first cognitive-task analysis of BRE, mapping common bottlenecks like abductive iteration, and working-memory strain in BRE to solutions present within VR affordances.

PATENTS

"Extended Reality Visualizations for Comprehension Assistance in an Academic Environment"
US Provisional Patent #63/652,652
- Strengthened learning outcomes in collegiate physics, measured by demonstrably clearer demonstrations of difficult concepts at a 95% reduction in monthly costs over existing laboratory methods, by developing tailored virtual-reality teaching tools.