

WIL Highlights for August 21, 2020

“Augmented Reality (AR) and Artificial Intelligence (AI): Future Impact on the Workplace and Your life” featuring Dr. Blair MacIntyre, Professor in the School of Interactive Computing at Georgia Tech and Former Research Scientist at Mozilla.”

Summary: Dr. Blair MacIntyre truly is a multifaceted individual: a professor, research scientist, AR expert, husband, father, gamer, bagpiper and much more. During WIL #207 / virtual WIL #6, we were fortunate to not only learn much more about AR - the technology, applications and experiences – but also about Dr. MacIntyre’s compelling perspective on such subjects as mentoring, climate change, and maintaining your creative edge.

WIL participants were very interested in and engaged by Dr. MacIntyre’s personal as well as his professional journey, from Canada to New York and finally to Atlanta and Georgia Tech. While his choices and moves may have seemed random (by his own admission), they were the right ones at the right time for him to learn, to grow and ultimately to find his way to the top of the AR field. In his chosen field, whether in the research lab, through consulting, experiential projects, or in teaching, he’s clearly earned a high level of respect and contributed significantly to the way AR and other technologies can make our work and our lives easier and better now and in the future.

In his bio, Dr. MacIntyre states that “he’s interested in designing software to help non-geeks create experiences that appear to live around them in the physical world and help push AR from a niche technology into the mainstream.” In his remarks, it was apparent that he works hard to do exactly this. Not content to continue doing the same work and research, he’s turned his focus to making AR and VR work on the web. Ultimately, he wants technology like AR to impact some of society’s biggest problems, issues like climate change, equal access to education, etc.

With Dr. MacIntyre’s expertise, experience and excitement on this topic, there’s no doubt that we need to stay tune to see what comes next – as well as read the latest book he’s co-authored with Dr. Jay Bolter, his longest collaboration partner.

BACKGROUND – Personal & Professional:

- Grew up in blue color family environment in Canada; good at math and thought accounting might be his future.
- Discovered the computer in college while attending as a co-op student at the University of Waterloo. Also attended Columbia University in New York City where he received his Ph.D (first in his family to do so.)
- Early job in pharma wasn’t for him, so he moved on to research lab. Worked at Center for New Oxford Dictionary at Waterloo, helping to digitize the OED. Various jobs in graphics labs, etc.

- Major influencer and early mentor, Tim Bray, software engineer and researcher who invented XML
- In 1991 he “fell into” an augmented reality project which set his direction thereafter
- Came to GT in Jan. 1999.
- After hearing Jay Bolter talk about his book “Remediation” (re new media through the lens of our experiences), he knew he wanted to work with him.
- “Involved in numerous experiments”, e.g., room scale interactive drama called AR Façade in an apartment off campus to 2 virtual characters – kind of a ‘Who’s Afraid of Virginia Wolf’ scenario.
- Co-founded Aura Interactive in 2009 and after it shut down, founded The MacMynatt Group in 2015.
- In 2016 took a leave from GT to do research at Mozilla. Now back at GT on faculty in both the School of Interactive Computing and adjunct faculty in the School of Literature, Media and Communications.
- Active in leading and contributing to various international symposiums in his field as well as serving on the editorial board of The International Journal of Human Computer Studies and the journal Virtual Reality.

KEY TAKE-AWAYS AND LESSONS LEARNED:

- “My life and career path were not anticipated having somewhat bumbled my way through college. Things came pretty easy and made great grades, just wasn’t a perfect student.”
- “The fact that you make a C or D or fail a class is NOT indicative of your potential or your human worth.”
- “I’m not always worried about choosing a project or making a decision that’s strategically a good idea, I decide based on is it interesting to me, is it fun, will it have an impact, and do I care about it, etc.”
- “My advice to someone wanting to pursue my field: you don’t need to focus on degrees or courses – everything in computer science is relevant. The literature, media and communications side make it possible for people who are not computer programmers to work with these technologies.”
- “I would encourage people to experiment. The humanities are super important. Understanding how we got here, how our society works, how people think and understand and perceive is just as important in AR and VR as it is in any form of communication.”
- “We took these technologies that are incredibly hard to use and build experiences to demonstrate what might be possible.”
- “Jay and I attended conferences on AR and VR where almost everyone was a technologist trying to solve a problem. We realized this was super hard for non-techies!”
- “All the things we fear about these technologies actually help us build better experiences.”

- “AR was coined in the early 80’s by Boeing and NASA as a counter to virtual reality (VR) which replaces the whole world around you with graphics.”
- “I’m not primarily an AI researcher but any definition such as Wikipedia makes the point that it’s about a device or computer that perceives its’ environment AND takes action. And that’s a fundamental part of AR.”
- “Back in the 2000’s, some colleagues in Japan create an AR toolkit for non-techies which did amazing things and could be used in art, chemistry, educational experiences, etc. Even though it was still technically hard to use, it was one of the first systems that encouraged creativity where the technology was not the most important thing.”
- “I took a trip to Berlin earlier this year and that two way flight had the same carbon impact as my home, my family of four for a month.”
- “One side effect to the pandemic – remote/virtual usage. Not entirely popular, still some resistance but we’ve had the opportunity to test the technology, support safe work and school. Has allowed us to reduce our carbon impact since we don’t have to travel as much.”
- “I led a conference where we previously had participants from 32 countries in person but because we changed to remote/virtual participation, we had 52 countries represented.”
- “Someday, not any time soon, glasses will be augmented for consumer applications.”

Other Insights & Experiences:

- On using AR for training applications: One example cited was a project using the film, Twelve Angry Men; set up an experience to view it through AR from the perspective of 4 people to see their biases. GT’s Interactive Media Technology Center engaged in other projects like this, techniques for training, etc.
- On how to find a mentor: “Be open to receiving mentorship; do things you care about / are interested in. I mentor students who are passionate about projects I’m working on, not just to add to their resume for grad school. What gets people excited about working with you is when they can see you’re excited!”
- On privacy concerns with AR and other technologies: “There are some issues with so many cameras on these new devices but most if not all major companies stay within the law. However, going forward, consumers need to hold companies accountable. Right now there’s a whole class of information, e.g., health information, which is illegal to share. We may need to consider other info collected similar to personal health information. One recent development to follow: Facebook’s announcement re Oculus (their VR device).”
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