Yohan Baillot

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SUMMARY

Seasoned technical leader with experience in business development with a unique 25 years of Augmented Reality R&D hands-on experience prototyping Augmented Reality visualization systems and one of the leading experts in this field with many early academic publications and several patents

PROFESSIONAL EXPERIENCE

Jan 2016 / Present

Founder and CEO, ARCortex Inc, Los Angeles CA

Created an Augmented Reality software development and system integration business to support the use of AR on various uses cases and verticals, including Defense/First Responders, AEC and Media/Entertainment. ARCortex also conduct work for hire and expert AR architecting. Developed an internal Unity platform (WorldEngine) to create complex AR applications using geo-referencing and visual positioning and allowing multiple users to see the same content in real time on mobile and multiple AR/VR eyewear platforms including Hololens and MagicLeap

April 2021 / February 2022

Public Services Engineering Solutions Lead, ML Horizons

Part of ML Horizons, a defense and first responders subsidiary of ML. Lead the development of Augmented Reality POC and solutions for DOD and first responders use cases

April 2015 / Dec 2016

Manager, Accenture Wearable Technology Practice, San Francisco CA

Supported the growth of the emerging wearable technology group through team building, enterprise customers acquisition, and scalable wearable technology deployment

Sep 2014 / April 2015

Independent Consultant, ARCortex, San Francisco CA

Supported various emerging AR startups as an independent consultant providing guidance, working on resolving complex implementation issues, and de-risking technology development through proof of concepts and prototyping

Dec 2013 / Sep 2014

Augmented Reality Director – Senior Software Developer

Enabled the ODG X eyewear to function as an AR device and developed diverse software demonstrations to support business sales

- Provided guidance for long term strategy and buy/make decisions
- Developed Android and Unity Defense proof of concepts applications
- Implemented display viewer and configuration for ODG stereo eyewears

Dec 2012 / May 2013

Lead AR Architect, Atheer, Mountain View CA

Provided the stealth startup with expertise in designing, architecting and implementing a new revolutionary and innovative Augmented Reality solution for the consumer electronics domain

- Help bringing up a new Android hardware platform
- Implemented the first Android 3D visualization software
- Guided the team through steps to make the system work

2010-2013

Independent consultant, Simulation3D, San Francisco, CA

Founded a company providing consulting and R&D in the field of Augmented Reality (AR) to support the emerging ecosystem of startups developing AR and other visualization applications on smart phones

- Provided strategic guidance, system architecture and technical roadmap development

- Initial prototyping through software and hardware integration
- Developed core software and hardware technology to enable new AR experiences
- Implemented visualization solutions on mobile Android and iOS platforms

2011-2012   **CTO and co-founder, Dekko, San Francisco, CA**

Stealth-mode startup building advanced location based social software, heavily drawing on computer vision and Augmented Reality algorithms to create amazing new types of experiences

- Provided technical expertise to quickly deliver the company offering
- Pointed out key academic research to leverage
- Developed the future development roadmap and eliminated risks
- Identified and hired strong academic and industrial talents
- Wrote several invention disclosures to protect the company
- Participated in code development, problems solving, and implemented quick prototypes to prove assumptions

2005-2010   **Director and Technical Lead, ITT Advanced Engineering and Sciences, Herndon, VA**

Created a new AR group within ITT with focus on transitioning stable AR research into viable products. Developed an initial portfolio of robust AR prototypes to demonstrating capabilities and performed business development. Created a development roadmap supporting tech transfer and long term growth. As the activity ramped up and while continuing hands-on development, hired and technically managed a development team and created a working environment to bring the group to a running state. Specific achievements include:

- Designed and productized the World's first robust vehicle AR system (SAFE)
- Supported the development of a GPS-denied indoor 3D tracking system for personnel
- Designed and prototyped a system to track the head of a person near a vehicle
- Rewrote algorithms developed at NRL into a fused solution exploitable by third parties
- Invented innovative concepts to use AR to solve military and first responder needs
- Six invention disclosures, 2 of which were released as patents so far

1999-2005   **System Engineer, United States Naval Research Laboratory (NRL), Washington, DC**

Contracted by ITT Industries as a senior software and electrical engineer to the Virtual Reality Laboratory of the Naval Research Laboratory. Researched and developed the Battlefield Augmented Reality System (BARS), a wearable personal head-up display designed for Marines and using through glasses to overlay situation awareness on the environment. Became critical to establish the lab as world-renowned in the AR field by developing innovative solutions. Specific achievements include:

- Designed and implemented the initial rendering engine and architecture for BARS
- Prototyped the **first wearable computer able to do real-time stereoscopic graphics**
- Implemented and supported continuous operation of various AR platforms
- Supported external collaborators to integrate their capabilities with BARS
- Invented and implemented a calibration process adequate for military users

EDUCATION

1996-1998   **M.S. Computer Science**, University of Central Florida, Orlando, FL. Specialization on Simulation and Training. Thesis on "First Implementation of the Virtual Reality Dynamic Anatomy (VRDA) tool". GPA 3.875

1993-1996   **M.S. Electrical Engineering**, Polytech'Montpellier (formerly ISIM) in connection with the LIRMM, Montpellier, France. Major in Microelectronics, Automation, and Robotics.

SKILLS

Trainings   Technical Leadership, Management of Complex Projects, Program management, Technical proposal writing, Business development, Kaisen, Capture planning for strategic wins

Languages	Fluent in reading, writing and speaking French and English, basic Spanish
Software	Unity, C#, MS Visual Studio, C / C++, Android, Android Studio/Eclipse, Objective-C, OpenGL, OpenSceneGraph, OpenCV, Java , JavaScript, JNI, MS Project, ARKit, ARCore, ARFoundation
Academic	Founder of the ARForum mailing list on with more than 450 members. General chair for ISMAR 2004. Member of IEEE Computer Society. Member of the ARConsortium and advisor to the AR Open Cloud Foundation
Platforms	Hololens, Magic Leap, ODG R/X7, GearVR, HTC, Occulus, Epson Moverio, Cardboard, Structure
Interests	Travel, Tennis, Simplifying life, Robotics, Quantum physics, The human brain, The meaning of life

PATENTS

"Algorithm to find the stable position and orientation of two rigid bodies", 2004, # 6,708,142

"Method and system for geo-referencing and visualization of detected contaminants", 2008, # 7,383,129

"Method and system for relative tracking", May 2009, # 7,538,724

"Emergency rescue system and method having video and IMU data synchronization", October 2012, #8296063

"Augmented reality-based system and method providing status and control of unmanned vehicles", October 2015, # 7,920,071

"System and method to display maintenance and operational instructions of an apparatus using augmented reality", April 26, 2016, # 9,324,229

2 other patents filed currently being reviewed by USPTO

SELECTED PUBLICATIONS

Baillot Y., Perey C. "AR Eyewear and mobile devices: the challenges ahead". A position paper for the International AR Standards Meeting February 17-19, 2011

Schmidt G., Brown D. G., Tomlin B. E., Swan II E., Baillot Y. (2006) "Toward Disambiguating Multiple Selections for Frustum-Based Pointing", VR2006, 3DUI Symposium, Washington DC

Swan II E., Livingston M. A., Smallman H. S., Brown D., Baillot Y., Gabbard J. L, Hix D., (2006) "A Perceptual Matching Technique for Depth Judgments in Optical, See-Through Augmented Reality", VR2006. Winner of an "Honorable Mention" award at IEEE Virtual Reality

Brown D., Baillot Y., Bailey M.P., Pfluger K.C., Maassel P., Thomas J., Julier S. "Using Augmented Reality to Enhance Fire Support Team Training", I/ITSEC 2005, Orlando, FL, December 2005

Livingston M., Brown D., Swan II E., Goldiez B., Baillot Y., Schmidt G. S. (2005) "Applying a Testing Methodology to Augmented Reality Interfaces to Simulation Systems", Western Simulation Multiconference (WMC '05), New Orleans, LA, January 23-27, 2005

Brown D., Julier S., Baillot Y., Livingston M., Rosenblum L. (2004) "Event-Based Data Distribution for Mobile Augmented Reality and Virtual Environments", Presence: Teleoperators and Virtual Environments, Volume 13, Issue 2, April 2004

Hix D., Gabbard J., Swan II E., Livingston M., Höllerer T., Julier S., Baillot Y., Brown D (2004) "A Cost-Effective Usability Progression for Novel Interactive Systems", HICSS 2004, Hawaii, January 2004

Baillot Y., Julier S., Brown D., Livingston M. (2003) "A General Tracker Alignment Framework for Augmented Reality", ISMAR 2003, Tokyo, October 2003

Livingston M., Swan E., Gabbard J., Höllerer T., Hix D., Julier S., Baillot Y., Brown D.(2003) "Resolving Multiple Occluded Layers in Augmented Reality", ISMAR 2003, Tokyo. Winner of the 2003 NRL Alan Berman Publication Award.

Baillot Y., Eliason J., Schmidt G., Swan E., Brown D., Julier S., Livingston M., Rosenblum L. (2003) "Evaluation Of the ShapeTape tracker for Wearable, Mobile Interaction", VR2003, Los Angeles, March 2003

Julier S., Lanzargota M., Baillot Y., Brown D. (2002) "Information Filtering for Mobile Augmented Reality", 2002, IEEE Computer Graphics & Applications

Baillot Y., Brown D., Julier S. (2001) "Authoring of Physical Models Using Mobile Computers", ISWC2001, Zurich, October 2001

Azuma R., Baillot Y., Feiner S., Julier S., MacIntyre B., Reinhold B. (2001) "Recent Advances in Augmented Reality", IEEE CG&A

Höllerer T., Feiner S., Hallaway D., Bell B., Lanzagorta M., Brown D., Julier S., Baillot Y. and Rosenblum L. (2001) "User interface management techniques for collaborative mobile augmented reality", Computers & Graphics, Volume 25, Issue 5, October 2001, Pages 799-810

Julier S., Baillot Y., Lanzagorta M., Rosenblum L. and Brown D. (2001) "Urban Terrain Modeling For Augmented Reality Applications", In M. Abdelguerfi (Ed.), 3D Synthetic Environments Reconstruction (pages 119-136). Dordrecht, The Netherlands: Kluwer Academic Publishers, 2001

Baillot Y., Gagas E., Höllerer T., Julier S., Feiner S., (2000) "Wearable 3D Graphics for Augmented Reality: A Case Study of Two Experimental Backpack Computers", NRL Technical report

Rolland, J.P., Y. Baillot, and A. Goon (2000) "A survey of tracking technology for virtual environments", in Augmented Reality and Wearable Computers. Ed. Barfield and Caudell (Mahwah, NJ), (2000)

Baillot, Y., J.P. Rolland, K. Lin, and D.L. Wright (2000) "Automatic modeling of knee-joint motion for the virtual reality dynamic anatomy (VRDA) tool" Presence: Tele operators and Virtual Environments (MIT Press) 9(3), 223-235

Julier S., Baillot Y., Lanzagorta M., Brown D., and Rosenblum L. (2000) "BARS: Battlefield Augmented Reality System: a mobile Augmented Reality System for military in urban environments", in NATO Symposium on Information Processing Techniques for Miltary Systems.

Baillot, Y (1998) "First Implementation of the Virtual Reality Dynamic Anatomy (VRDA) tool", Master thesis dissertation, School of Computer Sciences, University of Central Florida

Complete list of publications and references available upon request. On the electronic version of this resume, underlined items are hyperlinks to web pages with more details about the items in question.