Joshua Buck

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Objective & Summary

Highly motivated, detail-oriented, and engaged computer scientist whose experience is concentrated in applied software research and agile development with exposure to system design, sensor integration, machine vision, mixed-reality, programming language theory, and award-winning research in AI human-computer dialog systems, including personal assistants. Has over five years of work experience, with several years in management. Looking for a fast-paced position in related areas consisting of software research and development, with leadership opportunity.

Key Skills

C, C++ and python, java, ml, go, scheme, ruby, …	Machine vision, OpenCV, PCL, …
Maya Modelling and Scripting	Matrices and Matrix Operations
Data (text) Mining	Programming Languages Theory
Machine Learning and AI	Concurrent Programming
Expertise in OOP and CBD	Agile Methods (TDD, SCRUM, Atlassian tools)

Experience

University of Dayton Research Institute *Assoc. Software Engineer*, 1 Jan. 2015-Present

- Nominated for the institute's annual Outstanding Performance Award for 2015
- Independently organized interdivisional collaboration efforts between senior researchers (with and without software backgrounds) in order to solve complex, interdisciplinary problems
- Applied multidimensional matrix transformations to create Mixed-Virtual-Reality applications, including game projection into a room using fast scanning lasers
- Researched and prototyped sensor systems for commercial and industrial applications including navigation, location, tracking, and alignment technologies
- Led teams of intern software developers, managed agile development boards, provided mentoring

University of Dayton *Research Assistant*, 2014-Present

- Developed a cross-platform C++ toolkit for rapidly prototyping AI, mixed-initiative, human-computer dialogs, using a notation derived from programming language concepts, available at https://bitbucket.org/jwb_research/
- Authored articles on the uses of programming language concepts in the domain of mixed initiative dialog interaction and presented my toolkit at four conferences, one international

Academic Publications *Author*, 2016-Present

- Buck, Joshua W. (2017) Mixed-Initiative Personal Assistant Agents. *ACM Undergraduate Student Research Competition In Proceedings of ACM SIGCSE Symposium on Computer Science Education*.
- Buck, J.W. & Perugini, S. (2016). A tool for staging mixed-initiative dialogs. In *Proceedings of the Twenty-seventh Annual Modern Artificial Intelligence and Cognitive Science Conference*.
- Perugini, S. & Buck, J.W. (2016). A language-based model for specifying and staging mixed-initiative dialogs. In *Proceedings of the Eighth ACM SIGCHI Symposium on Engineering Interactive Computing Systems*, New York, NY: ACM Press. (ACM Proceedings)

University of Dayton, Computer Science Department *Teaching Assistant*, 2014-2015

- Assisted in the teaching and development of a new course targeted for minority students new to computer science, using Matlab and Autodesk's Maya, to do game development and animation

Greene Valley Recreation Center *Assistant Manager*, 2011-2013

Education and Certifications

University of Dayton *BS Computer Science GPA 3.78 (May 2017)*