

JOHN L. BARVENIK
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Education

University of Maryland, Baltimore County (UMBC)
B.A. in Psychology, Minor in Computer Science
Graduated December 2019
GPA 3.7/4.0

Academic Awards And Achievements

- 2015, 2017, 2018 and 2019 - UMBC President's List
- 2017 and 2018 - UMBC Dean's List
- Maryland State Citation from Senator Shirley Nathan-Pulliam

Key Coursework

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| <ul style="list-style-type: none">• PSYC 409: Development and Education• PSYC 335: Physiological Psychology• PSYC 380: Psychology of Personality | <ul style="list-style-type: none">• CMSC 435: Computer Graphics• CMSC 341: Data Structures• CMSC 313: Comp Org. and Assemb. Language |
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Experience Highlights

Course Projects/Papers:

- Used C++ with exposure to C, Java, Python: Fall 2015 - Fall 2016, Fall 2017 - Spring 2018, Spring 2019
 - Raytracer - included parser, per-pixel ray tracing with depth priority, per-pixel shadow checks, reflections based on material data
 - Rasterizer - included 3D to 2D transforms with z-buffer for depth priority
 - Further work included sorting of large datasets, creating storage structures, content aware image resizing, and creating code generated animation
- Research paper on Assessment of Technology use in STEM Classes
 - Topic included different types of technology (clickers, online courses/supplements, VR) and relationship to motivation theories and success

Work Experience:

- Summer Camp Technology Instructor: June to August, 2015-2019
 - Instructor for children ages 6-12, class sizes up to 20 students
 - Topics include: Robotics, Stop Motion Animation, Game Design, Modding, Coding

Volunteer/Extracurricular:

- First Robotics Mentor: Sep. 2015 - present
 - Five years' experience mentoring High School robotics team, working closely with students on mechanical design and software development level, 2-6 days a week
 - Mechanical subsystem design, integration, and analysis; software for autonomous and human operated mechanisms
- First Robotics Team Member: Sep. 2013 – June 2015
 - Leader of 7 person team and lead mechanical designer
 - System design and integration, CAD and 3D printing, team coordination and organization
- 2013 - Winner of the National Game Design Contest at Marbles the Brain Store
 - Marbology is sold nationwide at Barnes & Noble, Amazon.com and other retailers

Skills

- Critical thinking, problem solving, and systems analysis
- Leadership and group dynamics
- Object Oriented Programming; C++, C, Java, Python
- Computer aided design for hardware production (Creo) / character modeling, rigging (Maya, Blender)
- Mechanical design