**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**

* PSYC 409: Development and Education
* PSYC 335: Physiological Psychology
* PSYC 380: Psychology of Personality
* CMSC 435: Computer Graphics
* CMSC 341: Data Structures
* CMSC 313: Comp Org. and Assemb. Language

**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