

J. ELLIOT MILLER

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TECHNICAL STRENGTHS

Computer Languages	C/C++, Java, Python, Visual Basic, C#, Bash
Software & Tools	Unity, L ^A T _E X, Git, Gimp, Microsoft Office Suit, AutoCAD, Quickbooks, SPICE

EDUCATION

Bucknell University 2016 - 2019

Bachelor of Arts, Computer Science *GPA: 3.55 cum laude*

College of Arts and Sciences, Minor in Philosophy

- Bucknell Student Government: Class of 2019 Senator

Statistical Literacy for the 21st Century; Software Engineering and Design; Calculus III; Computer Organization and Programming; Life, Computers, and Everything; Discrete Structures; Computer Science Design Project; Operating System Design; Algorithms; Human-Computer Interaction; Symbolic Logic.

Harrisburg Area Community College 2014 - 2017

Associate of Arts, Mathematics and Computer Science *GPA: 3.96*

- HACC Student Government Association: Legislative Chair; Senator; Ethics Committee Chair
- Phi Beta Lambda: President; Phi Theta Kappa: Member

Java Programming; Object Oriented Programming; Linear Algebra

PROJECTS

World of Hellos 2019 - ongoing (Python, Python 3, Ruby, Java, C, C++, Fortran, Fortran90, R, Lisp, JavaScript, C#)

Exploration of common and esoteric languages

- Uses file management, recipe parsing, and command line calls to compile and run Hello World in any given language
- Accepts output of programs it runs to confirm proper execution

Math Generator 2019 - ongoing (C++)

Mathematics practice problem generator

- Uses basic computer arithmetic to generate problems and solutions as a teacher's aide
- Future work will implement a learning model of Advanced Exposure to embed simple tasks in a context of an advanced problem
- Project functions and is used in tutoring math

VR Dragon Riding Simulator 2019 (C#, Unity)

Phone-based virtual reality dragon riding

- Uses Google cardboard with motion controls to navigate environment in three dimensions
- Implements button input to trigger custom attack animations on stock sprites

Circuit Theory Game 2018 (C#, Unity, Bash, SPICE)

Developed game to intuitively teach circuit theory

- Eschews numbers and text in favor of immediate visual feedback of circuit activity
- Represents visual circuit graphs as connection matrices
- Converts matrix representation to text file for input to SPICE
- Parses SPICE output into matrix and visual representation using the Edmunds-Karp algorithm

Categorical Logic Solver 2017 (C)

Program for determining the validity of categorical syllogisms according to Aristotle and Boole

- Explores the close relationship of logic as a philosophical discipline with rudimentary gate functions
- Converts logic problem space to binary dimensions solved with nested looping algorithm
- Project completed and used as study aide in logic class

RELEVANT EXPERIENCE

Private Family 2019 - Present

Fourth Grade Math and Computer Science Tutor

- Provides intensive, one-on-one tutoring in math and computer science
- Utilizes Unity to create lesson plans and curricula tailored to student's needs
- Blends foundational math practice with the introduction of mid and high level concepts to actively engage the children's minds and activate an interest-based approach to drilling and repetition

Bucknell University 2018 - 2019

Undergraduate Research

- Employed SciKitLearn in Python environment to construct machine learning classifiers used in analyzing effectiveness of ϵ -Differential Privacy data protections
- Engineered Python/NumPy application to extract and present experiment results across seven variables
- Ran artificial intelligence attacks using university Linux cluster against ϵ -Differentially Private data

The Bayeux Group 2014 - 2017

Owner/Manager

- Founded company to provide business services to new entrepreneurs
- Used Gimp, Facebook, and Google and Adobe Suites, created marketing campaigns to promote products and services in multiple industries
- Developed and implemented business reporting process to monitor project progress and delivery status

ASSOCIATIONS & ACADEMIC ACHIEVEMENTS

Association for Computing Machinery

Project Management Institute

Bucknell Community College Scholars Program Scholarship

First in Who's Who; Phi Beta Lambda 2016(?) Conference

Second in Strategic Analysis and Decision Making; Phi Beta Lambda 2016(?) Conference

Third in Project Management; Phi Beta Lambda 2016(?) Conference

Benchmark of Excellence: Electrical; Heat Pump; Certified Carbon Monoxide Inspector; Combustion Analysis; HVACR Electrical Plumbing; Basic Refrigeration and Charging Procedures; System Diagnostic and Troubleshooting Procedures

INTERESTS AND ATHLETICS

Ballroom Dance; Piano; Violin; Guitar; Architecture; Horticulture; Chemistry; Cybernetics; Electronics; Video Games; Legos; Running; Obstacle Courses; Climbing; Combat Sports; Rappelling; One Punch Workout; Cycling; Architectural Design (Steampunk Aesthetic); Animal Training