

Dylan Grace

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EDUCATION

Valparaiso University

Bachelor of Science in Computer Engineering
With a second major in physics
Grade Point Average: 3.740/4.000

Valparaiso, IN
May 2023

WORK EXPERIENCE

JJ Babbitt

Manufacturing, Engineering, and Software Development Intern

Summer 2021

- Developed custom excel functions using visual basic
- Discovered a mathematical property of mouthpieces that allowed us to obtain perfect coordinates for the facings of mouthpieces
 - This change brought about consistency and accuracy across the entire facing correct to 0.001"
 - Implementation provided a 2x-10x improvement to accuracy across the whole facing of the mouthpiece
- Machined the measuring device that implemented our new accuracy standard

Valparaiso University Hesse Center

Engineering Tutor

2020 – Present

- Assisting students in learning about physics, mathematics, computer engineering, and general engineering subjects.
- Leading weekly help sessions for digital logic and linear circuit theory.

RESEARCH

QCA Quantum Computing Research

2019 – Present

- Proved that the method of orthogonal “kink” counting in QCA (Quantum Dot Cellular Automata) generates errors by performing electrostatics calculations on QCA systems
- Presented research at Valparaiso University SOURCE symposium to invalidate the five input QCA majority gate as well as show errors in the coherence vector computational engine inside QCADesigner (the common QCA CAD environment) that was used to validate the five to one majority gate.
- Continuing research in an electrostatics solution as a greedy algorithm for QCA design verification and automatic circuit construction of the most optimized, stable circuit possible from just a truth table.
- Created a C++ desktop application that would allow a user to determine the ground state of QCA systems through an electrostatics calculation.

AWARDS

IPC Emerging Engineer

One of 5 students nationally to participate in industry mentorship and to sit on IPC electronics standards committees.

2022 – Present

ACTIVITIES

IEEE (Institute of Electrical and Electronics Engineers)

Virtual Reality Gloves Project Lead and Founder

2019 – Present

Valparaiso University Research Society

Founder and President

2021 – Present

Sigma Phi Epsilon

Chaplain

2020 – Present

College of Engineering Organizations Week

Founder and student director

Fall 2021

IPC

General Member

2020 – Present

All Parallel CPU Core Design

Personal Project

2020 – Present

SKILLS

Quartus II,	C, C++, C#,	Python,	Visual Studio,	Unreal Engine,	Quantum Mechanics,	Digital Logic,
OrCAD PSpice,	C++ CLI,	Qiskit,	x86 Assembly,	WinForms,	Computer Architecture,	VHDL
OrCAD Capture,	Visual Basic,	MATLAB,	MIPS Assembly,	MinGW,	Compilers,	ModelSim