Abraham Michel

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EDUCATION

Loras College – *Dubuque, IA*
GPA: 3.6181 / 4.000 *Aug 2020 – May 2025*
Bachelor of Science in Electro-Mechanical Engineering (3.658 / 4.000) and Computer Science (4.000 / 4.000)
Minors: Mathematics, Analytics, Physics, and Psychology
Awards & Honors

- Dean's List
- Greco-Roman Wrestling All-American
- Academic All-American - Wrestling
- Academic All-Conference - Wrestling
- Rechenmacher Creativity Award
- Michael R Neavins Award
- Top Student in Computer Science Award
- Top Student in Engineering Award

Extracurriculars

- Wrestling
- Planetarium Club
- Engineering Club
- Lockheed Martin Ethics in Engineering Team

Clinton Community College – *Clinton, IA* *Jan 2017 – May 2020*
Associate of Arts - AA, Associate of Sciences – AS
Taken concurrently in high school
Awards & Honors

- Dean's List
- President's List
- Phi Theta Kappa Honors Society

WORK EXPERIENCE

Private Tutor – *Dubuque, IA* *Feb 2025 – Present*

- Created material for one-on-one tutoring sessions to aid students in understanding class material.

Supplemental Instructor - *Loras College, Dubuque, IA* *Aug 2023 – Present*
Intro to Robotics, Physics I, Physics II (x2), and Numerical Methods

- Provided additional whole group, small group, and individual instruction under the SI program.
- Led lab sessions and offered constructive feedback.
- Taught fundamentals of coding to build a foundation for implementing numerical methods in MATLAB.

Software Test Architect – *Deere & Co, Dubuque, IA* *Feb 2023 – Jun 2024*

- Developed, executed, and reviewed test plans for various obstacle intelligence software applications in development for utilization in heavy machinery.
- Developed and maintained tools utilized on small team and department-wide scales.

Residential Advisor - *Loras College, Dubuque, IA* *Aug 2021 – May 2023*

- Formed and maintained relationships with residents to create a welcoming and friendly atmosphere.
- Encouraged a positive environment around campus.
- Mediated conflicts between residents.
- Created programs that will encourage student growth and development.

Bartender - *Offshore Hotel & Resort, Bellevue, IA* *Jun 2021 – Nov 2022*

- Created and maintained positive relationships with customers that lead to increased sales and returning clients.
- Learned to work in high pressure environments while maintaining prompt and quality service.
- Learned to optimize work as well as multitask.
- Worked long hours, typically 10am – 2am.

Landscaper - *CT Landscapes, Maquoketa, IA* *Mar 2020 – Jun 2020*

- Operated heavy machinery such as skid steers and excavators.
- Communicated efficiently as a team to optimize jobs by deciding what equipment to use and the routing for equipment.
- Installed drainage systems to ensure the longevity and quality of projects.

VOLUNTEER WORK

Gardener – *Dubuque Arboretum, Dubuque, IA* *Sep 2023 – Aug 2024*

- Cared for the rose gardens by weeding and clearing debris.
- Directed visitors around the gardens.

Heitkamp Planetarium President - *Loras College, Dubuque, IA* *Aug 2021 – May 2023*

- Wrote and delivered engaging and accessible presentations to diverse audiences, making use of an Emerald Pulser Projector and Stellarium.
- Collaborated with professionals at NASA and Iowa Space Grant Consortium.

CONFERENCES

Legacy Symposium 2025 – *Dubuque, IA*
Lockheed Martin Ethics in Engineering Competition 2025 – *Bethesda, MD*
Society of Women Engineers Conference 2024 – *Chicago, IL*
Legacy Symposium 2024 – *Dubuque, IA*
American Association for the Advancement of Science S-STEM Conference 2023 – *Washington, DC*
Society of Women Engineers Conference 2023 – *Los Angeles, CA*
Legacy Symposium 2023 – *Dubuque, IA*
Legacy Symposium 2022 – *Dubuque, IA*
Legacy Symposium 2021 – *Dubuque, IA*

PROJECTS

Capstone Project: One Soul – *Project for Loras College* *Aug 2024 – Present*

- Following a SCRUM framework to ideate and develop a 2D multiplayer action roguelike in the Unity game engine.

2D Adventure RPG – *Project for personal learning* *Jul 2023 – Present*

- Developing a Unity-based RPG in C#, featuring a custom scripting language for dialogue and in-game commands. Responsible for story writing, art, and designing a dynamic spell-building system that explores the complexities of emotional acceptance.

Rubik's Cube Simulation – *Project for personal learning* *Feb 2025 – Mar 2025*

- Leveraged three.js to create 3D virtual Rubik's Cube to garner a better understanding of possible solving techniques.

Portfolio Website (Website**) –** *Project for personal learning* *Sep 2024 – Feb 2025*

- Developing the front-end of a portfolio website to learn more about web development.
- Utilized GitHub Pages for the back-end of the website.

Virtual Museum (Play**) –** *Project for personal learning* *Dec 2024 – Jan 2025*

- Designed and built a virtual museum with Unity and C# to showcase my portfolio in a unique way.
- Won the 2025 Rechenmacher Creativity Award.

Sudoku Generator – *Project for personal learning* *Dec 2024 – Jan 2025*

- Created a primitive sudoku generator and solver as a means of learning how to solve sudokus myself.
- Included a step-by-step output to aid in understanding the solver's logic.

Numerical Methods LeetCode Clone – *Project for personal learning & Loras College* *Sep 2024 – Nov 2025*

- Developed a Flask application that uses the Octave API to create a LeetCode clone catered to the Numerical Methods curriculum as a supplement for students learning MATLAB.

LinkedIn Profile to Curriculum Vitae Scraper (GitHub**) –** *Project for personal learning* *Sep 2024 – Sep 2024*

- Developed a web scraper, using Python and the Selenium library, that takes a LinkedIn profile and uses the information to generate a CV formatted as a .docx (Like this one).

Dialogue Language for Video Games – *Project for personal learning* *Jun 2024 – Jun 2024*

- Used C# to create a custom language for writing dialogue which has sped up the progress of game development. This language allows keyword commands to be activated during dialogue, branching dialogue, and rich-text styling.

Protocol Buffer Script Generation for MQTT Messages – *Project for Deere & Co.* *Mar 2024 – Jun 2024*
- Developed a Python automation script capable of dynamically generating secondary scripts tailored to interpret incoming MQTT messages encoded in custom Protocol Buffer formats.
- Saved time by reducing manual effort needed to write and customize scripts for each Protocol Buffer class.

Dynamic ASL Sign Recognition (GitHub**) –** *Project for Loras College* *Mar 2024 – Apr 2024*
- Developed a Python-based program that leverages GIF data to train a machine learning model for recognizing multi-sign ASL phrases.
- Designed a GUI to streamline data collection, processing, and neural network construction, while also serving as an educational tool for understanding neural networks and machine learning concepts.

Basic Physics Simulation (Video 1**,** Video 2**) –** *Project for Loras College* *Mar 2024 – Mar 2024*
- Physics engine written in Java with OpenGL and GLSL that was adapted to make a basic FPS.

AI Enabled Movement on Heavy Machinery – *Project for Deere & Co.* *Feb 2023 – Jan 2024*
- Wrote, executed, and reviewed test plans for AI applications utilized on heavy machines such as ADTs, Crawlers, Backhoes, Loaders, and Excavators.

Automated Test Results Visualization and Reporting System – *Project for Deere & Co.* *Jul 2023 – Dec 2023*
- Used Python, JavaScript, Jenkins/Groovy, and Markdown to pull current project data entered in Rally to create interactive burnup and stoplight charts which are uploaded and displayed on a GitHub pages website.
- Saved the department ~4 hours/team lead/week previously spent on manual reporting tasks.
- Offered clear visibility into our department's performance to stakeholders outside of the product lines, facilitating informed decision-making and fostering collaboration across the organization.

Custom Metal Signs – *Project for personal learning* *Dec 2021 – Dec 2023*
- Designed and cut multiple metal signs using CorelDRAWX7, SolidWORKS, and a CNC plasma table.
- Finished signs by cleaning the surface with a grinder and spray paint or metal stain.

Image to DXF Vector Generation – *Project for personal learning* *Dec 2023 – Dec 2023*
- Developed an application that takes an image and generates the vector outlines for a DXF file to be used for CNC and 3D printing applications.

Automated Defect Duplication Script – *Project for Deere & Co.* *Jul 2023 – Jul 2023*
- Developed an automation script to duplicate test defects from Rally to Jira, reducing manual effort and errors for test engineers.
- Provided seamless integration between platforms that streamlined defect management leading to enhanced team productivity and accuracy.

Test Plan Utility Application – *Project for Deere & Co.* *Apr 2023 – Jun 2023*
- Developed an application to write, manage, and execute technical test plans more efficiently and effectively while providing backwards compatibility for previous methods.

Capstone Project: Thermoelectric Phone Charger – *Project for Loras College* *Aug 2022 – May 2023*
- Researched, designed, and prototyped a thermoelectric generator utilizing piezoelectric chips that generates enough power from tea candles to charge a phone.
- Presented a poster at Legacy Symposium.

Video Game: Curious Caveman – *Project for personal learning* *Sep 2022 – Oct 2022*
- A puzzle game made with the Unity Engine and C# scripting where a curious caveman is bewildered by fire, in the form of a torch controlled by the player and has to navigate through treacherous environments to the goal.

Facial Recognition Program – *Project for personal learning* *Mar 2022 – Sep 2022*
- A facial recognition program that takes an input from a webcam, develops a "mask" of the photo, and compares it to stored profiles. This project was built using Python to learn and develop a deeper understanding of the language as well as code optimization.

Flywheel Trainer – *Project for personal learning* *Jul 2022 – Jul 2022*
- A device used for fitness training that allows the user to produce high outputs without the use of heavy equipment. This device utilizes the inertia of a weighted disk spinning on an axel which produces the counteractive force to the user's movement.

Video Game: Fog (itch.io**)–** *Project for personal learning* *Feb 2022 – Feb 2022*

- A driving game made with Unity Engine and C# where the player is driving through a fog at night trying to avoid deer and oncoming traffic.

Video Game: Shoot 'em (itch.io**)–** *Project for personal learning* *Feb 2022 – Feb 2022*

- A survivor-like arcade game made with Unity Engine and C# where the player must survive for as long as possible while defeating enemies.

Tensegrity Chair – *Project for personal learning* *Nov 2021 – Dec 2021*

- Used physics to design a chair that is supported only by chains. Built with stainless steel held together by TIG welds. The seat is stained cedar shaped using a router.

Video Game: Speedrunner – *Project for personal learning* *Dec 2020 – Jan 2021*

- A game made with the Unity Engine and C# where the player must traverse a series of 10 levels as fast as possible. The game features 3 characters with one of 3 unique abilities: Dash, grappling hook, and double jump.

Acrylic Light Up Sign – *Project for personal learning* *Nov 2020 – Dec 2020*

- Utilized CNC, SolidWORKS, and CorelDRAWX7 to design and create a clear acrylic skyline.
- Used a router and woodburning to create a base for the skyline and housing for the lights

Wind-Up Car – *Project for Loras College* *Dec 2020 – Jan 2021*

- Designed a car in SolidWORKS, adhering to project and material constraints.
- Manufactured the design using 3D printing and CNC cutting.

Video Game: Chop Wood, Carry Water – *Project for personal learning* *Dec 2020 – Jan 2021*

- Developed an arcade style game in Unity Engine and C# as an introduction to game development and programming.