

# Joseph M. Aquino

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## EDUCATION

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### **Vanderbilt University**

Nashville, TN

*Bachelor of Engineering in Mechanical Engineering (ME)*

*August 2018 - May 2022*

- Cumulative GPA: 3.52 / 4.00
- Dean's List
- Relevant Coursework: Gas Dynamics, Aerospace Propulsion, Computational Fluid Dynamics, Mechatronics, System Dynamics, Mechanical Engineering Design, Heat Transfer

## PROFESSIONAL EXPERIENCE

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### **Vanderbilt Aerospace Design Laboratory (VADL)**

Nashville, TN

*Vehicle Team Lead and Safety Officer*

*August 2021 – Present*

- Member of the seven-time national championship rocketry design team that competes annually in the NASA University Student Launch Initiative (USLI) competition.
- Designing, fabricating, and testing a rocket vehicle that can carry a payload with imaging and geolocation capabilities.

### **Laboratory Research Assistant**

Nashville, TN

*Vanderbilt Aerospace Design Laboratory/Energetics Laboratory*

*May 2021 – August 2021*

- Designed, fabricated, and tested a model rocket for Level 1 High Powered Rocketry (HPR) Certification (certified by the National Association of Rocketry).
- Created flight simulations to predict rocket trajectory and parachute behavior using MATLAB and OpenRocket.
- Produced three high-quality experimental procedures (with results being <10% error from theoretical values) for the energetics laboratory, which falls into the Vanderbilt School of Engineering undergraduate ME curriculum.

### **Johnson Matthey**

Sevierville, TN

*Mechanical Engineering Intern (Continuous Improvement)*

*June 2020 – August 2020*

- Programmed Microsoft Excel sheets using Visual Basic for Applications (VBA) to semi-automate data input for operations data.
- Designed and deployed an operations dashboard (on Excel) that provides near real-time data and calculates/displays overall equipment efficiency (OEE) and downtime of equipment assets.
- Interpreted piping and instrumentation diagrams (P&IDs) and redesigned pneumatic controls for the packaging process.
- Created standard work examples (SWEs) for preventative maintenance to check safety critical equipment (specifically, natural gas piping).

## RELEVANT PROJECTS

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- Modeled the aerodynamics of a wing and flap using COMSOL Multiphysics
- Designed a pool lift to assist the elderly or physically impaired in getting in/out of a pool using Creo Parametric.
- Designed a trolling motor for kayaks using Creo Parametric.
- Created a "Simon Says" memorization game using LEDs, a Playstation 2 controller and receiver, and an Arduino Uno.

## TECHINICAL SKILLS AND INTERESTS

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**Languages:** MATLAB, LabVIEW, Arduino, Microsoft Excel VBA

**Design:** Creo Parametric, Onshape

**Programs:** Excel, PowerPoint, COMSOL Multiphysics

**Interests:** Hiking and biking, disc golf, college football and basketball