Gerardo Andrés Mazzei Capote

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OBJECTIVE

Full time employment in Mechanical or Manufacturing Engineering.
Strong interest in polymer processing and polymer-based additive manufacturing technologies.

EDUCATION

- **University of Wisconsin-Madison** - *Madison, WI, U.S.A*
  - **PhD**: Mechanical Engineering (ongoing).
  - **MSc**: Mechanical Engineering (2018).
- **Universidad Simón Bolívar**- *Caracas, Venezuela*
  - **Bachelor of Science**: Materials Engineering (2016).

ENGINEERING EXPERIENCE

Graduate Student under Prof. Tim Osswald, UW-Madison **August 2016 - Present**

- Extruded a customized ABS filament with tight dimensional tolerances to achieve high precision volumetric output during 3D printing.
- Used a 6-axis robotic printer to produce and test FFF coupons with unusual bead orientations.
- Added custom geometries to "SciSlice"- an open source, research focused slicing engine.
- Used a novel criterion to develop a failure surface for FFF parts.
- Taught "ME370- Energy Systems Laboratory" to senior undergraduate students.
- Manager of the Additive Manufacturing Laboratory of the Polymer Engineering Center since August 2017.

SKILLS

Languages:

- Spanish: *Native language*
- Portuguese and English: *Advanced, near-native level*

Computer skills:

- Solidworks - *Proficient*
- EES - *Intermediate*
- Origin - *Intermediate*
- MATLAB - *Proficient*
- Microsoft Office - *Intermediate*
- R - *Basic*
- Rep-Rap G-code - *Proficient*
- Adobe Animate - *Intermediate*
- AutoCAD - *Basic*

OTHER EXPERIENCE

Chemistry Tutor Grupo Escalera, Universidad Simón Bolívar **August 2012 - August 2013**

- Taught inorganic and organic chemistry to senior high school students aiming to apply to higher education studies in a venezuelan institution.

President Asociación de Estudiantes de Ingeniería de Materiales- USB **September 2014- July 2015**

- Organized the event "V Convención Ingeniería de Materiales" where industry partners and experts presented on current topics related to Materials Engineering.
- Organized multiple events aimed at obtaining sponsorships or funding for the student organization.
- Organized industry visits where students could see manufacturing processes at work.
- Excelled at delegating and working with a team of like-minded individuals.

continued

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RECENT PRESENTATIONS

AMUG Chicago, IL **2019**

- *A novel failure criterion applied for Fused Filament Fabrication parts*.

RAPID+TCT Fort Worth, TX **2018**

- *A Tensor Based Failure Criterion for FFF Manufactured Parts*.

SFF Austin, TX **2017**

- *Towards a Robust Production of FFF End-User Parts with Improved Tensile Properties*.

ADDITIONAL INFORMATION

- Society of Plastics Engineers (SPE) member.
- Exchange student through the Rotary Youth Exchange Program (August 2008 to June 2009).
- Venezuelan and Italian citizenship.
- Holder of Brazilian permanent resident visa.

LINKS

LinkedIn profile - https://www.linkedin.com/in/gerardo-mazzei-capote-396413b3

PUBLICATIONS

[1] G. A. Mazzei Capote, A. Redmann, and T. A. Osswald, "Validating a Failure Surface Developed for ABS Fused Filament Fabrication Parts through Complex Loading Experiments," *Journal of Composites Science*, vol. 3, no. 2, 2019.

[2] G. A. Mazzei Capote, N. M. Rudolph, P. V. Osswald, and T. A. Osswald, "Failure surface development for ABS fused filament fabrication parts," *Additive Manufacturing*, vol. 28, no. April, pp. 169–175, 2019.

[3] G. A. Mazzei Capote, *Defining a failure surface for Fused Filament Fabrication parts using a novel failure criterion*. Master thesis, University of Wisconsin- Madison, Madison, WI, 2018.

[4] G. A. Mazzei Capote, A. Redmann, C. Koch, and N. Rudolph, "Towards a Robust Production of FFF End-User Parts with Improved Tensile Properties," in *Proceedings of the 28th Annual International Solid Freeform Fabrication Symposium – An Additive Manufacturing Conference*, (Austin, TX), pp. 507–518, 2017.