Matt Nice

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EDUCATION

Vanderbilt University — Nashville, TN
M.Eng. Cyber Physical Systems — *Spring '19 – Fall '19* (Expected)
- GPA: 3.9

Tulane University — New Orleans, LA
B.S.E. Biomedical Engineering with Honors — *Fall '14 – Spring '18*
Honors Thesis — *March '17- April '18*
- Induction of Angiogenesis in the Mouse Mesentery.

EXPERIENCE

Transportation CPS Lab — Institute for Software Integrated Systems
Masters of Engineering Research Project — *May '19 - August '19*
- Reverse engineered the CAN bus and on-board radar unit of a vehicle with in-depth Python data analysis
- Order of magnitude reduction of experimental costs, with an upgrade in experimental information collected

Make48 — Stanley Black & Decker Makerspace
Team Big Easy — *August '18*
- Successfully planned, MVP prototyped and pitched a new product idea in 48 hour invent-a-thon competition.
- Competed representing Tulane University against Rice, Illinois, RISD, and many others.

Pearl Cohen Zedek Latzer Baratz — New York, New York
Patent Prosecution Intern — *May '18 - August '18*
- Learned how designs go from engineer to accepted patent. Notable clients: Medtronic, 3D Systems, Volkswagen.

Microvascular Dynamics Lab — Tulane University
Research Assistant — *June '15 - May '18*
- Research focused on two projects, both resulting in publication:
  - Following angiogenesis-related cell types in stem cell age studies.
  - Demonstrating the viability of an adapted form of the rat mesentery culture model in mice. This opens up new possibilities regarding genetic modification in this microvascular modeling space.

Tulane Makerspace — Tulane University
Rapid Prototyping Technician — *Jan '18- May '18*
- Assisted students and faculty in the drafting and fabrication of desired parts and projects.
- Operated and maintained 3D printers, laser cutters, metal and wood shop machinery.
- Upheld all field safety standards and regulations (e.g. PPE).

LEADERSHIP AND SERVICE

Vanderbilt Wond'ry: Volunteered to be a maker mentor, and help run the maker spaces over May '19 - August '19. Operate and maintain laser cutter, 3D printers, and various other fabrication machinery.

Tulane Ultimate Frisbee Club: '16-'18 Club Vice President, '14-'15 captain of Rex "B" team. Planned travel and lodging logistics, and aided in fundraising, team volunteering, and kit design.

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Community Volunteer: Assisted high school students with science projects in New Orleans. Repeated Ronald McDonald House visitor/chef. Attended various New Orleans STEM outreach events.
Leadershape Institute: Selected by Tulane to participate in leadership training and symposium in May ’16.

SKILLS

- Engineering design, including InkScape, AutoCad, Fusion 360
- Fabrication in wood, metal, plastic (machine shop, laser cutting, 3d printing)
- Project leadership, organization, and execution
- Technical writing authorship
- Data mining and visualization techniques
- Proficient Python (pandas, numpy), MATLAB expertise
- *Academic Coding Experience:*
    - Java
    - Ruby on Rails
    - SQL and querying languages
    - AutoCad, Fusion 360
    - C/C++
    - LaTeX
    - HTML/CSS
- Cadaver Dissection
- Immunohistochemical Tagging Procedures
- Fluorescent Microscopy
- Tissue Culture
- Murine Mesentery Tissue Harvest (Rodent abdominal surgery for research purposes)
- Excel, Word, PowerPoint, Access
- French (proficient)

HONORS AND AWARDS

Senior Honors Scholar (1 of 25 per class)	2018
Tulane University Scholar (1 of ~80 per class)	2015-2018
Tulane University Honors Program	2015-2018
Distinguished Scholar Merit Scholarship ($25,000 annually)	2015-2018
Dean’s Grant	2015,2016
Tulane Honors Summer Research Grant	2015

PUBLICATIONS

Suarez–Martinez, AD, Peirce, SM, Isakson, BE, et al. Induction of microvascular network growth in the mouse mesentery. *Microcirculation*. 2018; 25:e12502. https://doi.org/10.1111/micc.12502

Azimi, MS, Motherwell, JM, Dutreil, M, et al. A Novel Tissue Culture Model for Evaluating the Effect of Aging on Stem Cell Fate in Adult Microvascular Networks. Submitted.

ASSORTED PROJECTS

- Verification of an automated cruise control model using NuXMV symbolic model checker (Academic)

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- Composition in Heterogeneous Embedded Systems, Presentation (Academic)
- Created fully functional 3-foot diameter Wheel of Fortune replica
- Floral wooden coasters, stained and sealed, with cork feet
- Southern live oak engraved image on wood
- BLS data analytics for Compete America Coalition in immigration discussions with NEC
- Developed cardio-toxicity metrics in Dr. Emilia Entcheva's cardiac optogenetics lab from in-depth data analysis.
- Conducted an urban geographical research project projecting the future student population of Arlington Public Schools from trends in U.S. Census and other public data.
- Designed and executed experiments investigating non-invasive optical gout diagnosis using optical and spectroscopic methods. (Academic)

- **Writing sample available upon request**
- **Excellent references available upon request**