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PROFESSIONAL SUMMARY

- Forward-thinking aerospace engineer with a strong background in fluid mechanics and bio-inspired engineering leading to the successful completion of a doctorate in a hybrid of both fields.
- Excellent team player and strong builder of prolific collaborations as evidenced by 10 co-authored publications.
- Self-motivated individual with easy-integration in a multicultural environment with proven ability to work under pressure to high levels of accuracy and quality in a fast-paced work environment.

EDUCATION

University of Virginia, Charlottesville, VA.

Ph.D. in Mechanical and Aerospace Engineering. GPA: 3.920

Expected, May 2019

M.S. in Mechanical and Engineering. GPA: 3.920

May 2017

B.S. in Aerospace Engineering, *highest distinction*. GPA: 3.845

May 2015

SKILLS

Fluid mechanics, physics-based modeling, scientific programming, numerical simulation, dynamic systems, project management, experimental design, research, prototyping, 3D modeling, brainstorming, oral and written communication, strong leadership, interpersonal and collaborative skills.

TOOLBOX

FORTRAN, MATLAB, Python, Tecplot, Autodesk Inventor, Maya, Solidworks, Rhino3D, Adobe Creative Suite, Visual Studio, Microsoft Office, High-Speed Cameras, CFD research codes.

RELEVANT COURSEWORK

Aerodynamics, fluid mechanics, computational fluid dynamics (CFD), computation as a research tool, thermomechanics, analytical dynamics, multibody mechanical systems, heat and mass transfer.

LANGUAGES

Fluent in **English** and **Yoruba**.

RESEARCH EXPERIENCE

University of Virginia, Charlottesville, VA. Graduate Researcher, 2015-2019

- Investigated the aerodynamics and bio-physics of nature's fliers and swimmers for unmanned aerial/underwater vehicle design.
- Leveraged CAD tools for reconstructing dynamic motions and deformation of natural propulsors.
- Designed free flight experiments and performed flight simulations using in-house CFD codes.
- Developed codes for streamlining workflow from data collection to analysis to publication.
- Discovered a new flight mode for additional maneuverability of flapping-wing flight and unraveled the techniques of force generation, use of aerodynamic mechanisms, and wing and body function.
- Collaborated with diverse teams as part of ONR's multi-university initiative on fast/efficient swimming.
- Authored 10 publications and 13 professional presentations at conferences and grant review meetings.
- Mentored and managed 5 independent study projects by undergraduate and high-school students.

University of Virginia, Charlottesville VA. Undergraduate Researcher, 2013-2015

- Investigated the airframe morphing of flying insects using high-speed cameras and 3D reconstructions.
- Developed codes for kinematics quantification, rigid-body dynamics and single-objective optimization.
- Presented findings in 1 publication and 2 presentations at conferences.

CAPSTONE PROJECTS

Electric Aircraft Design, 2014-2015

- Designed a four-place general aviation electric aircraft with distributed propulsion for operation in 2020.
- Conceptualized the bio-inspired design concept and performed necessary aerodynamic calculations, presenting ideas in a state-of-the-art report and thesis.

Spacecraft Design, 2014-2015

- Developed mission concepts and grant proposal to estimate the erosion and pollution in the Chesapeake Bay using a low-orbit cube 3U CubeSat.
- Designed the communication strategy from the CubeSat in space to the ground station on earth.

Technology and Society, 2014-2015

- Elucidated the impacts and implications of technological leapfrogging in sub-Saharan Africa countries in relation to the adoption of complex technologies from the first world (e.g., electric vehicles).

LEADERSHIP EXPERIENCE

American Institute of Aeronautics and Astronautics Student Conference, 2017

- Chaired a session of undergraduate student presentations on various topics in aerospace engineering.

Office of African American Affairs Peer Advisor Program, 2014-2015

- Coordinated a weekly program that offered both course-specific help and life skills colloquia to boost performance for first-year African-American college students.
- Managed 30 tutors and coordinated contact with colloquia speakers

Sigma Gamma Tau- National Aerospace Honor Society, 2014-2015

- Served as vice president of the University of Virginia chapter.
- Recruited new inductees, coordinated tutoring sessions, and collaborated with the faculty advisor.

Aerospace and Mechanical Engineering, 2014-2015

- Coordinated groups of 15 students on projects in air-breathing propulsion and aircraft design.
- Fine-tuned group dynamics, conflict resolution and delegation skills as a result.

ADDITIONAL EXPERIENCE

University of Virginia, Charlottesville VA. Teaching Assistant, 2017-2018

- Facilitated the learning of over 300 students through office hours and review sessions in Partial Differential Equations (Fall '17), Probability & Statistics (Spring '18), and Fluid Mechanics (Fall '18).

Technische Universität Braunschweig, Germany. Study abroad, Summer 2014.

- Collaborated with a team of 19 to design new concepts for the future of transportation for Volkswagen
- Proposed a semi-autonomous electric bike mobility extender that interfaced with existing infrastructure.

HONORS

American Institute of Aeronautics and Astronautics (AIAA), **Abe Zarem award for distinguished achievement in aeronautics**, 2015

University of Virginia Engineering Research Symposium (UVERS), **First Place**, 2016

University of Virginia Aerospace and Mechanical Engineering, **Outstanding Graduate Student**, 2016

American Institute of Aeronautics and Astronautics (AIAA), **Member Spotlight – September 2015**, 2015

AIAA Region I Student conference, **Second Place – Master's Category**, 2015

University of Virginia Aerospace and Mechanical Engineering, **Research Presentation Award**, 2018