Mikihisa Yuasa

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Research Keywords: Dynamic Control, Computational Fluid Dynamics, Mesh Generation, Flow Control, Connected Automated Vehicles and Highway, Aerial/Ground Unmanned Vehicles, Intelligent Transportation, Computing, Biomimicry, Harbor Seal Whisker, Conformal Mapping

EDUCATION

9/2017-Present **University of Wisconsin-Madison**, Madison, WI
B.S. Engineering Mechanics, expected May 2021 (Present GPA: 3.69)

4/2017-8/2017 **Keio University**, Tokyo, Japan
Studied mechanical engineering at the College of Science and Technology

RESEARCH EXPERIENCE

5/2018-Present **University Wisconsin-Madison Department of Engineering Physics,** Madison, WI.
Student Research Assistant at Professor Jennifer Franck's Computational Fluid Dynamics Lab, College of Engineering

- Built an algorithm to dynamically generate meshes around bioinspired structures for CFD simulation.
- Developed libraries that optimize CFD simulation workflows of the pre-existing analytical method.
- Led a project improving the functionality of a toolbox generating airfoil meshes for numerical analysis.

9/2019-Present **University of Wisconsin-Madison Department of Civil engineering,** Madison, WI.
Student Research Assistant in Professor Bin Ran's Connected Automated Vehicle Lab, College of Engineering

- Carried out traffic simulations on mixed traffic of traditional and automated vehicles under the snow.
- Initiated to build a car-following model for platoons of connected automated vehicles with assigned costs to join and leave platoons.
- Evaluated the network capacity for peak hours on highways in Madison, WI.

10/2017-5/2018 **University of Wisconsin-Madison Department of Astronomy,** Madison, WI
Student Research Assistant of Dr. Ralf Kotulla

- Improved Python codes for analysis of sky-image data.
- Executed data analysis and image processing for finding new asteroids.
- Discovered candidates of unfound asteroids and their coordinates.

PRESENTATION

Poster

Yuasa, M. (2018). Save the World by Discovering New Asteroid. Poster presented at the *20th Annual Undergraduate Symposium at the University of Wisconsin-Madison.* Madison, WI.

GRANTS

Grant	Hilldale Undergraduate/Faculty Research Fellowship, 2020. ($4,000)
Scholarship	Japan Student Services Organization Student Exchange Program (Undergraduate Scholarship for Degree Seeking Students) National Scholarship affiliated with the Japanese government, 2017-Present ($174,000 [18,200,000 JPY])
Scholarship	Engineering Physics Department Scholarship at University of Wisconsin-Madison, 2018-19. ($1,000)
Scholarship	UW-Madison Undergraduate Scholarship for Summer Study, 2018. ($1,500)

SKILLS

LANGUAGE

Japanese	Native-level skill in reading, writing, and speaking
English	Professional-level skill in reading, writing and speaking. TOEFL iBT 107 (1/2017).
French	Business-level skill in reading, writing and speaking

PROGRAMMING

Proficient	C++, MATLAB, Python, LaTeX, EES
Experienced	R, Rust, C#, JavaScript, CSS

SOFTWARE

Proficient	SOLIDWORKS, OpenFOAM, PTV Vissim, ParaView, Maple, Microsoft Office, Docker, UNIX
Experienced	Ansys Workbench, Pointwise, Tecplot

ACTIVITIES AND AWARDS

Activity	Member of International Linguistics Olympiad 2016 Japan Representative Team