

Mikihisa Yuasa

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EDUCATION

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- 9/2017-Present **University of Wisconsin-Madison**, Madison, WI
B.S. Engineering Mechanics, expected May 2021 (Present GPA: 3.67)
- 4/2017-8/2017 **Keio University**, Tokyo, Japan
Studied mechanical engineering at the College of Science and Technology

RESEARCH EXPERIENCE

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- 9/2019-Present **Student Research Assistant** in *Dr. Bin Ran's Connected Automated Vehicles and Highways Lab*, Department of Civil Engineering, University of Wisconsin-Madison, Madison, WI.
- Executed macroscopic simulations on mixed traditional and automated traffic under the snow between Madison, WI and Chicago O'Hare Airport.
 - Initiated a project to build a car-following model for automated vehicle platoons with assigned costs.
 - Evaluated the network capacity for peak hours on highways in Madison, WI.
- 5/2018-Present **Student Research Assistant** in *Dr. Jennifer Franck's Computational Fluid Dynamics Lab*, Department of Engineering Physics, University Wisconsin-Madison Madison, WI.
- Built an algorithm to dynamically generate meshes around bioinspired structures for CFD during flow simulation to reduce mesh development time and computational effort.
 - Implemented the algorithm above as an open-source software library for a CFD simulation solver.
 - Led a project to reduce mesh generation time of a toolbox for conformal structural airfoil meshes.
- 10/2017-5/2018 **Student Research Assistant** of *Dr. Ralf Kotulla*, Department of Astronomy, University of Wisconsin-Madison Madison, WI
- Improved Python codes for analysis of sky-image data.
 - Executed data analysis and image processing and discovered candidates of unfound asteroids.

PRESENTATION

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- Yuasa, M., Lyons, K., & Franck, J. A. (2020). Simulations of bio-inspired undulated cylinders through dynamic morphing of surface topography [Conference presentation]. 73rd Annual Meeting of American Physical Society Division of Fluid Dynamics, Chicago, IL, United States. <http://meetings.aps.org>
- Yuasa, M., Lyons, K., & Franck, J. A. (2020). Flow simulations of bio-inspired undulated cylinders through dynamic morphing of surface topography. Poster presented at Computing in Engineering Forum 2020 of Grainger Institute for Engineering, Madison, WI, United States.
- 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.

AWARDS & FELLOWSHIP & SCHOLARSHIP

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| 2020 | Hilldale Undergraduate/Faculty Research Fellowship. \$4,000 |
| 2017-Present | Japan Student Services Organization Student Exchange Program (Undergraduate Scholarship for Degree Seeking Students). \$174,000 [18,200,000 JPY] |
| 2018-19 | Engineering Physics Department Scholarship. \$1,000 |
| 2018 | UW-Madison Undergraduate Scholarship for Summer Study. \$1,500 |

SKILLS

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| Programming | C++, MATLAB, Python, R, Julia, Rust, EES, C#, JavaScript, TypeScript, CSS, Maple, LaTeX |
| Software | ANSYS, OpenFOAM, Tecplot, PTV Vissim, ParaView, Pointwise, SolidWorks, UNIX |
| Languages | Japanese (Native), French (Business-level for writing, reading, and speaking) |