Hanna Mitamura

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EDUCATION

M.S. Mechanical Engineering
Boston University
2020-2022
Thermal Fluids Concentration
GPA 3.98

B.A. Chemistry
Vassar College
2014-2018
Anthropology Minor
Sigma Xi Research Society
GPA 3.71

SKILLS

Engineering
- MATLAB
- SolidWorks
- 3D Computer-Aided Design (CAD)
- ANSYS, Mechanical and Fluent
- Finite Element Analysis (FEA)
- OpenFOAM, 9 and v2112
- COMSOL Multiphysics
- Computational Fluid Dynamics (CFD)

Chemistry
- GCMS
- UV-Vis spectroscopy
- FTIR spectroscopy
- NMR spectroscopy

Additional
- Microsoft Office
- (MS Word, MS Excel, MS PowerPoint)
- Mandarin (HSK5)
- HTML5/CSS
- Visual Studio Code

EXPERIENCE

Teaching Assistant
Boston University College of Engineering, Summer 2021
Guided 5 teams of undergraduate students through successful completion of Truss Design (physical and MATLAB modeling) for EK301 Statics under tight deadline

Language Scholar
Nanjing University, 2018-2019
Attained HSK Fluency level 5 of 6 in Chinese (Mandarin) language through tutoring exchange

Research Assistant
Vassar College Chemistry Dept., 2016-2018
Researched polyanhydride synthesis using FTIR and NMR spectroscopy, and presented findings to American Chemical Society, ACS URS April 2018. Also conducted GCMS and FTIR study of amber, published in Life: The Excitement of Biology (2018)

Chemistry Intern
Good Housekeeping Institute Magazine, Summer 2017
Conducted study on color-fastness of hair dyes using a benchtop spectrophotometer for January 2019 edition article listing Best Permanent Colourants

PROJECTS

Intercollegiate Rocket Engineering Competition (IREC)
BU Rocket Propulsion Group, Fall 2020 - Spring 2021
Airframe team
material selection, structural analysis, SolidWorks modeling, drawing (ASME Y14.5), simulation and cost assessment
Flight Dynamics
OpenRocket Flight Simulation, integration of rocket subsystems

CFD Simulation of Micronozzle Flow, Spring 2022
Conducted OpenFOAM and COMSOL simulation of micro-nozzle flow for use in water vapor-based micro-propulsion systems

Continuous Feed Pipe Cutter Design, Fall 2021
Designed a pipe-cutting and placement machine, incorporated client feedback, modeled custom parts using SolidWorks, conducted Net Present Value (NPV)/payback period assessment

Portfolio available at **hannamitamura.github.io**