Hanna Mitamura

MSME graduate with Chemistry background seeking Mechanical Engineer positions
Coursework includes Fluid Mechanics, CFD, Heat Transfer, Thermodynamics, Circuits, Materials

CONTACT

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Linkedin
Personal Website

SKILLS

MATLAB
SolidWorks
3D CAD
Finite Element Analysis (FEA)
HTML/CSS
C Programming
OpenFOAM 9 and v2112
COMSOL Multiphysics
Computational Fluid Dynamics (CFD)

GCMS
UV-Vis spectroscopy
FTIR spectroscopy
NMR spectroscopy

Microsoft Office
(Excel, Word, PowerPoint)
English (Native)
Mandarin (Conversational)
Excellent Manual Dexterity

EDUCATION

Boston University
Master of Science
Mechanical Engineering
Thermofluid Science and Energy
LEAP Scholarship
2020-2022
GPA 3.98/4.00

Vassar College
Bachelor of Arts with Honors
Chemistry Major
Anthropology Minor
Sigma Xi Research Honor Society
2014-2018
GPA 3.71/4.00

EXPERIENCE

Graduate Student Teacher, Boston University
Summer 2021
Guided 5 teams of undergraduate students through successful completion of Truss Design (physical and MATLAB modelling) for EK301 Statics under tight deadline

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

Research Assistant, Vassar College
2016-2018
Researched polyanhydride synthesis using FTIR and NMR spectroscopy, and presented findings to American Chemical Society, ACS URS April 2018, Published GCMS and FTIR analysis of Baltic amber

Chemistry Intern, Good Housekeeping Institute
Summer 2017
Conducted study on color-fastness of hair dyes using a benchtop spectrophotometer, with results underpinning January 2019 article on Best Permanent Colourants

PROJECTS

Intercollegiate Rocket Engineering Competition
IREC 2020**,** BU Rocket Propulsion Group

- **Airframe team lead**: material selection, structural analysis, SolidWorks modeling, drawing (ASME Y14.5), simulation and cost assessment
- **Flight Dynamics support**: OpenRocket Flight Simulation, integration of rocket subsystems

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

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