

SHUBHAM SONI

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SUMMARY

Experienced engineering professional with expertise in Mechanical & Aerospace Engineering, Physics, and sustainable engineering practices. Led projects yielding significant improvements in Wave Energy Converter (WEC) efficiency and building energy conservation. Proficient in project management, simulation, and design using ANSYS, SolidWorks, and MATLAB. Holder of Cornell's Engineering Simulations certification, pursuing Harvard's Python programming certification, and recipient of a state science competition Gold medal. *Looking full time positions in following domains: Modelling & Simulation (Energy, Thermal, Fluids, Structural), CFD Engineer, Project Engineer, Aerodynamics / propulsion Engineer.*

EDUCATION

ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO, IL, USA Aug / 2022 – Dec / 2023

MS - Mechanical & Aerospace Engineering, GPA – 3.53/4

Relevant Courses: Engineering Analysis, Computational Fluid Dynamics, Heat Transfer, Finite Element Analysis (FEA), Data Driven Modelling and Analysis, Building Energy Conservation & Simulation, Energy Simulation, Advanced Project Management.

NIT CALICUT, KERALA, INDIA

Aug / 2018 – Sept / 2020

MS - Physics, GPA: 3.3/4

Relevant Courses: Mathematical Physics, Numerical & Computational Lab, Computational Heat Transfer, Electronics Lab, Digital Electronics, Advanced Electromagnetic Theory & Lab, Atomic & Molecular Physics, Quantum & Statistical Mechanics.

WORK & INTERNSHIP EXPERIENCE

Assistant Construction Engineer

02/01/2024 - Current

Illinois Department of Transportation, (Gov. State Agency - Division of Aeronautics)

Springfield, IL, USA

- Conducted comprehensive field inspections of airports for projects funded by federal and state agencies to ensure compliance with regulations and project specifications.

Teaching Assistant

06/22/2023 – 08/04/2023

Northwestern University (#32 Globally QS ranked Inst.)

Evanston, IL, USA

- Enriched the Summer Camp at Northwestern University by delivering comprehensive instruction in Mechanical & Aerospace

Modelling & Simulation Engineer

01/07/2023 – 05/10/2023

Shirley Ryan Ability Lab (#1 USA's rehabilitation Institute)

Chicago, IL, USA

- Redesigned shock absorber properties for damper systems in adapted bikes, leading to a 37.7% improvement in performance.
- Collaborated with a team of five to enhance the braking systems of wheelchair bikes, resulting in a 15% increase in braking efficiency and safety.

UNIVERSITY LEVEL WORK EXPERIENCE

Energy Simulation Engineer

08/22/2023 – 12/10/2023

Interprofessional Project, MECC 2024 (Department of Energy & NREL, USA)

Chicago, IL, USA.

- Spearheaded a design and research project that achieved a 2.6% increase in the efficiency of Wave Energy Converter (WEC) technology.

Building Energy Simulation Engineer

08/22/2023 – 12/10/2023

Illinois Institute of Technology, CAE – 526 (Department of Civil & Architecture)

Chicago, IL, USA.

- Conducted energy conservation simulations for Chicago's buildings, resulting in an estimated 11% reduction in energy consumption.
- Demonstrated proficiency in sustainable HVAC system design, contributing to a 12% increase in energy efficiency for simulated buildings.

Advanced Project Management

08/22/2023 – 12/10/2023

Illinois Institute of Technology, INTM – 515, (Department of Industrial and Management)

Chicago, IL, USA.

- Successfully managed a semester project, ensuring on-time delivery and achieving project goals with a 91% completion rate.

SKILLS

Technical Skills: ANSYS, Dassault's – Simulia & SolidWorks, Open-Studio, MS Office Suite, MS- Project, Rhino, Grasshopper

Programming Skills: C, Python, MATLAB.

CERTIFICATIONS

- Acquired** - Computational Fluid Dynamics (CFD) from **Cornell University**. ACI Concrete Field-Testing Grade -1
- Ongoing** - Programming with Python from **Harvard University**, MATLAB Essentials from MathWorks.

AWARDS & MEMBER

- Awarded 14000\$ scholarship from Illinois Tech and serving as Teaching Assistant (TA) in Mechanical & Aerospace Dept.
- Auxiliary Board Member of CHIBPSA** & student member of **AIAA, SHPE** reputed organizations.