Yagmur Onder

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Education

Purdue University, B.S. Mechanical Engineering — West Lafayette, IN
Minor: Global Engineering Studies, GEARE Program — 05/2024
Awards: Outstanding Sophomore & Junior in ME Finalist; Undergraduate Award for Humanities & STEM Research

Research Experience

DeBoer Lab, Purdue School of Engineering Education — West Lafayette, IN
Undergraduate Researcher — 01/2021 – present

- Investigated understanding of engineering culture by organizing video testimonies from Malaysian women engineers & writing autoethnography of my ethnic/engineering identities
- Reviewed visualization instruments (PSVT:R, MCT) to evaluate spatial skill development in engineering curricula
- Organized & led meetings to support first-time researchers explore areas of interest and build research skills

Ray Ewry Sports Engineering Center, Purdue University — West Lafayette, IN
Undergraduate Researcher — 08/2022 – 12/2022

- Investigated how tennis racket construction affects feel and control in tennis rackets through peer-reviewed literature
- Collaborated in team of 2 in connecting literature to understanding racket responses as 2nd order mechanical systems
- Summarized academic literature in weekly meetings to communicate literature review progress for team of 5

Work Experience

DeMarini Sports, Wilson Sporting Goods Co. — Hillsboro, OR
Materials Engineer — 06/2023 – present

- Handled injection molding processes to construct dogbones of various materials to set up material testing
- Operate Instron tensile tests to obtain and report material properties utilized in R&D for baseball/softball bats
- Engaged in CNC machining, composite prototyping, bat assembly, testing, & graphics applications to learn manufacturing workflow
- Investigated the physics of baseball to understand vibration in sports equipment and perceptions of feel

Publications

Onder, Y., & Bhide, N., & Radhakrishnan, D, & Deboer, J. (2023, August), ***Rethinking Spatial Visualization Assessments: Centering Recognized Prior Knowledge in 2D/3D Curriculm Development*****,** Paper presented at 2023 ASEE Conference

Onder, Y. (2022, August), ***How Turkish Am I?: A 2nd-Generation Turkish-American Woman's Identity Navigation Through Mechanical Engineering Education (Diversity)*** Paper presented at 2022 ASEE Conference

- Won best Diversity, Equity, and Inclusion paper in ASEE 2022 Student Division

Engineering/Design Projects

SALLY: Animated American Sign Language Teacher — West Lafayette, IN
Designer, Animator, Rigger — 12/2022

- Conceptualized animated robot design to support American Sign Language education for children
- Created robot and environment models in 3Ds Max in 1 week using advanced modeling techniques
- Rigged and animated scene to adjust camera placement and have robot walking, turning, and sign greetings

"Anger Management", Tennis Racquet — Memphis, TN
Product Designer — 08/2017 – 03/2018

- Innovated tennis racquet made from affordable materials (fiber glass resin/cloth, plaster) by molding and casting
- Created two plaster molds to cast two racquets of fiberglass resin with embedded fiberglass cloth
- Achieved Gold Key in Sculpture from Scholastic Art & Writing Awards (highest form of regional recognition)

Additional Information

Technical skills:
Novice: MATLAB, LabVIEW, R Programming
Intermediate/Experienced: Excel, 3Ds Max, NX Siemens Software
Interests: Character animation, urban sketching, travelling, sports engineering, materials science
Extracurriculars: GEARE Ambassador (2021-2022), Women in Mechanical Engineering Taskforce (2021-present)
Language Proficiency: English (native) | Turkish (mother tongue, intermediate) | Spanish (intermediate)