

Merve Arslan

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EDUCATION

Drexel University
Master of Science in Materials Science and Engineering

Philadelphia, PA
Expected Graduation – August 2025

Marmara University
Bachelor of Science in Textile Engineering

Istanbul, Turkey
September 2021

EXPERIENCES

Process Engineering Intern

September 2024 – March 2025

Kordsa - Fabric Development Inc. – Quakertown, PA

- Analyzed five years of production data to identify inefficiencies and seasonal trends as part of a plant-wide efficiency improvement project.
- Optimized machine speed and tension settings to reduce defects while maintaining material quality in a Speed and Quality Optimization project.
- Applied 5S methodology to improve workplace organization and implement sustainable visual management practices in selected plant areas.
- Participated in the setup and optimization of a new production machine, conducted trial runs, and adjusted parameters to meet quality standards.

Teaching Assistant

January - June 2024

Drexel University - Philadelphia PA

- Provided instructional support as a TA for courses in Defects in Solid and Processing of Ceramic Materials.
- Synthesized ZnS and CdS quantum dots and did characterization of them under varying temperatures and over specific time intervals using PL, TEM, optic microscope, size and zeta potential for gene delivery application.

Engineering Interns

Sabanci University - Istanbul, Turkey

June - July 2021

- Utilized sol-gel synthesis to incorporate super absorbent polymers and fibers into plant cultivation materials, contributing to increased water retention and nutrient efficiency in soil.
- Enhanced the mechanical and fireproof properties of PLA and PP by incorporating vermiculite and cellulose into their structure for Bosch refrigerators.

TUBITAK MAM - Chemical Technology Institute - Kocaeli, Turkey

March - June 2021

- Developed proficiency in a range of characterization techniques, including SEM, FTIR, XRD etc. for technical textile applications.
- Participated in a defense industry project, conducting research to explore attachment methods for nanoparticle to textile surfaces to enhance functionality and performance.

BUTEKOM - Bursa Technology and Coordination R&D Center - Bursa, Turkey

January - February 2020

- Textile analysis methods and devices training was received including ISO 105 C06, ISO 105-X18, ISO 5077 etc.
- Applied ISO standards and industry protocols to conduct tests on textile materials, ensuring compliance with quality and performance standards.

European T-shirt Factory - Istanbul, Turkey

June - August 2019

- Utilized time study techniques to calculate monthly operators' efficiency and identified areas of improvement and implementing solutions by using RCFA for increasing productivity.
- Investigated and proposed innovative solutions for the dust problem in textile factories using Operations Research techniques, significantly enhancing worker safety, comfort, and overall factory conditions.

PROJECTS

- Medical System Preventing Bed Sores** 2019 – 2021
- Wearable Biosensor Tracking Vital Finding** 2020
- Search and Rescue Robot** 2020

AWARDS and LEADERSHIP

- Dean's Scholarships, Drexel University 2023-2024
- TEKNOFEST, Benefit of Humanity, Disaster Management Contest, Finalist 2021
- TEKNOFEST, Biotechnology and Innovation Contest, Winner (3rd) 2021
- Techxtile Startup Challenge, Finalist 2020
- OzU MakeAthon, Winner (3rd) 2020
- President, Marmara University Textile Engineering Club - Social Responsibility Committee 2019 - 2020

SKILLS: C programming, Arduino, MATLAB, MS Excel, PowerPoint, Word, problem solving, time management, English, Turkish Photography, <https://vsco.co/mervelion/gallery>