JACOB BELDING

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WORK EXPERIENCE

Procter & Gamble R&D Intern
May 2018 – August 2018, May 2019-August 2019

First Rotation

- Performed competitive analysis, including large-scale data collection and analysis, to deliver valuable insights
- Led design of new packaging, including ideation, concept drawing, 3D modeling, and prototyping
- Worked directly on-site with bottle manufacturers to perform production trials for a sustainability initiative to introduce the use of post-consumer recycled plastic

Second Rotation

- Developed methods for use of chemical foaming additives to achieve structural color in polyethylene terephthalate as a sustainable alternative to traditional colorant, and with potential for UV protection applications
- Worked with full-scale equipment to injection mold and stretch blow mold PET bottles
- Developed procedure for evaluating crystallinity of foamed PET using differential scanning calorimetry
- Automated the photography and additional to digital database of experimental retains using Python and C++

The Ohio State University Department of Chemistry X-Ray Diffraction and UV-Visible Spectroscopy Technician
January 2019 – April 2019

- Performed XRD and UV-Vis and used software to analyze data to characterize synthesized perovskite compounds
- Used spin coating and other lab techniques to prepare materials for use in solar cell construction
- Worked closely with chemistry students to teach and encourage interest in solar energy research

Battelle Memorial Institute Lab Analyst for GoPIT
June 2017 – May 2018

- Displayed strong communication skills by writing lengthy and detailed daily progress reports
- Showed problem solving ability through creative development and revision of new lab procedures
- Performed self-motivated, self-directed modification of living cells using CRISPR gene-editing
- Contributed to bioengineering research project by applying knowledge of science and engineering
- Demonstrated ability to learn new skills rapidly while engaging in a fast-paced work environment

EDUCATION

The Ohio State University Columbus, Ohio
Bachelor of Science in Chemical Engineering, GPA 4.00, Expected Graduation May 2021

ACADEMIC PROJECT EXPERIENCE

FEH Nanotechnology and Microfluidics Design Project
January 2018 – April 2018

- Designed, concept modeled, and 3D printed a nanotechnology-based lab-on-a-chip device with the goal of detecting and diagnosing Celiac disease from a single drop of blood
- Conducted a microfluidics-based yeast cell adhesion experiment based on independently designed procedure
- Wrote a computer program in C++ to perform fluid mechanics calculations, increasing productivity

SKILLS

Lab and Analytical: CRISPR, Powder XRD, UV-Vis Spectroscopy, ISTA Testing, SEM, Differential Scanning Calorimetry
Programming and Software: C, C++, Java, Python, MATLAB, HTML, LaTeX, Excel, Photoshop, Illustrator, InDesign
Engineering Design: Solidworks, Technical Writing, 3D Printing, Extrusion Blow Molding, Injection Stretch Blow Molding

HONORS & ACTIVITIES

American Institute of Chemical Engineers (AIChE)

- External Vice President, managing all contacts and overseeing Networking Night and professional events planning

Eminence Scholarship at The Ohio State University

- Full cost of attendance fellowship awarded to 20-25 with an emphasis on research, leadership, and service