

Jacob Ayers

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EDUCATION

Vanderbilt University, Nashville, TN

May 2019

Bachelor of Engineering; Biomedical Engineering

Chemistry [Minor]

Cumulative GPA: 3.35 / 4.00

Honors: Dean's List (Spring 2018, Fall 2017)

RESEARCH AND CLINICAL EXPERIENCE

Midcounty Orthopedics and Sports Medicine, Saint Louis, MO

Shadowed in clinic and Operating Room/E.R.

Summer 2018

- Gained in depth insight into the daily routine of a pediatric orthopedist as well as the expectations within the role
- Scrubbed in and familiarized myself with the proper sterile protocols of the operating room
- Gained valuable clinical experience interacting with patients, and viewing X-Rays for diagnosis
- Became familiar with the musculoskeletal system components and ailments

Duvall Biomedical Materials Lab, Nashville, TN

Undergraduate Research Assistant

Spring 2018 – Present

- Designed and optimized protocol for the production of Cas9 protein for research for credit
- Produced and stored bacterial plasmids, bacterial cultures, and buffer solutions
- Experienced with proper sterile and safe techniques when dealing with hazardous chemicals, bacterial cultures, and other substances encountered within a lab environment
- Skilled with micropipette and motorized pipette techniques for the production of buffer solutions, cellular media, and storage of samples within a sterile manner
- Researched into relevant topics to trouble shoot protocol, and present during laboratory presentations

ACADEMIC PROJECTS

Novel Therapeutic Development

Chem 4720 – Drug Design and Delivery

Spring 2018

- Investigated the nature of protein folding, small molecule drug A.D.M.E., different routes of administration, mechanisms of activity, current issues with drug resistance, and the nature of receptor binding
- Modelled the binding and adsorption of a novel small molecule therapeutic using computer modeling and general synthesis rules
- Created a process to synthesize a novel therapeutic from existing compounds that were commercially available

OTHER WORK EXPERIENCE

Vanderbilt Housing and ResEd Department, Nashville, TN - Student Resource Assistant

Sept 2017 – Present

Old Warson Country Club, Saint Louis, MO - Dining and Event Catering Staff

Jan 2014 – Jan 2019

SKILLS

Computer Skills: Proficient in MATLAB, Microsoft Excel, Data Analysis Methods

Language Skills: Intermediate Proficiency in Spanish