Griffin R. Calme

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ACADEMIC OVERVIEW

I am currently a first year Doctor of Pharmacy student at the Wayne State Eugene Applebaum College of Pharmacy and Health Sciences. Previously, I attended Waterford Mott High School and graduated in 2013. I graduated as the valedictorian with a weighted GPA of 4.17. After graduation, I attended Wayne State University for undergraduate education. I came into Wayne State with 24 credits earned from AP examinations in high school. I received a five, the highest score possible, on both Biology and Chemistry exams.

Coming into college, I applied and was accepted into the HealthPro Start program in the College of Pharmacy and Health Sciences. This program grants admission into the professional program of choice, mine being Pharmacy, with the stipulation that students maintain a 3.5 GPA and submit an application to the chosen program. HealthPro requires students to attend biweekly seminars on different healthcare fields in order to educate students on the field. I finished all three years of Pharmacy prerequisites with a cumulative GPA of 3.93, while maintaining good standing in both the Honors and HealthPro programs, and with no grade below an A-.

During my undergraduate studies I volunteered in a translational medicine laboratory for cancer immunotherapy research at the Karmanos Cancer Institute. Last year I primarily helped process patient blood samples and data for various studies. I maintained all of the tumor and T-cell cultures in the lab. Lastly, I conducted a few pilot studies of in-vitro adoptive T-cell therapy for targeting glioblastoma and neuroblastoma—the experiment did not prove to be fruitful, but it was very educational.

Stemming from my research at Karmanos, I applied for, and was awarded a 2016 Fall/Spring/Summer Undergraduate Research award for my project *Improving Immunohistochemistry Scoring Techniques for Cancer Biopsies with Computer Vision Algorithms*. In this project, I independently developed a system of computer vision algorithms that can segment IHC-stained features in microscope images and quantify staining in a continuous (rather than ordinal) data format. The proposed procedure hopes to eliminate human bias, improve the speed of analysis, and obtain more quantitative (rather than qualitative) data for research and patient care.

ACADEMIC OVERVIEW CONT.

In other previous research, I presented my project *Art & Architecture at the Detroit Public Library: The Bronze Doors* at the 2015 Fall Undergraduate Research Conference. In this project, I studied the bronze entrance doors to the DPL and sought to uncover lost information on the design, manufacturing, and artists who had created the doors. This research is being used by the DPL's Friends foundation to improve their public tours of the library and to renew public interest in the library and its resources.

In addition, last year I held the position of the President of the Wayne State chapter of the American Society for Microbiology, I have spent my three years in undergraduate studies as a part of this organization. ASM engages students in the science and research of microbiology and related fields through research presentations, journal club meetings, ASM-MI research conferences, and visits to sites like the Belle Isle Aquarium. It has been my personal goal to promote scientific literacy through this organization.

This previous summer I entered the HackWSU Hackathon, our team of two won second place in the advanced coders category for our project *EmotionEngine*. Our project used Python, OpenCV, and Scikit-Learn to create a webcam application that can detect faces and estimate the user's emotion based on a trained linear support vector machine. For training we modified a webcrawler to search Google and Bing for images of different emotion categories. This data was scaled down to 32x32 and fed through the SVM classifier. The face detection also grabbed faces from the webcam feed, scaled the images to the same dimensions and ran them through the trained classifier. The end product worked decently, but proved to be more of a novelty than anything.

I have recently joined a laboratory in the Pharmaceutical Sciences department in order to research diabetes proteomics. I have a diverse set of responsibilities that range from meeting study participants in the clinic and collecting data, to benchtop laboratory techniques, and even writing software for research and data analysis purposes. I really enjoy an environment of free thought, where I am not prevented from pursuing novel and cross-discipline ideas, where claims and actions must be backed by evidence, where reward is based on results instead of status, and where the only boundary to finding answers is your own creativity and persistence.

EDUCATION

Doctor of Pharmacy Candidate — Class of 2020
Wayne State University — Detroit, MI
Eugene Applebaum College of Pharmacy
and Health Sciences

Pharmacy Prerequisites — 2013–2016
Wayne State University — Detroit, MI
College of Liberal Arts and Sciences &
Irvin D. Reid Honors College

High School Diploma — 2009–2013
Waterford Mott High School — Waterford, MI

LICENSURE

Pharmacist Educational Limited License — 2016-2017
MI Dept. of Licensing and Regulatory Affairs
ID# 5302044984

PAPERS

Improving Immunohistochemistry Scoring Techniques for Cancer Biopsies with Computer Vision Algorithms — August 2016
Sole Author — Undergraduate Research Opportunities Program

TALKS

Improving Immunohistochemistry Scoring Techniques for Cancer Biopsies with Computer Vision Algorithms — Nov 11, 2016 (upcoming)
WSU Undergraduate Research Conference 2016

Art & Architecture at the Detroit Public Library: The Bronze Doors — Nov 15, 2015
WSU Undergraduate Research Conference 2015

LEADERSHIP

American Society for Microbiology, Wayne State Student Chapter — 2013–2016
President
The organization introduces students to research in microbiology and related fields. I was elected President for the 2015/2016 year.

ORGANIZATIONS

ACCP Student College of Clinical Pharmacy Wayne State Student Chapter — 2016–Present
Member

ASHP Student Society of Health-System Pharmacists Wayne State Student Chapter — 2016–Present
Member

LABORATORY EXPERIENCE

Yi Diabetes Proteomics Lab 2016–Present
WSU Integrative Biosciences Center &
Eugene Applebaum College of Pharmacy and Health Sciences
Student Researcher
Performs cell culture, molecular cloning and recombinant DNA techniques, works with proteomics & other bioinformatics data, develops software for automation of data analysis, carries out participant visits, specimen collection, and data collection in the clinic.

Karmanos Cancer Institute 2014–2016
Volunteer Research Assistant
Assisted cancer immunotherapy research and clinical trials. Maintained cell cultures, processed patient specimens, performed biochemical assays, and general laboratory upkeep.
400+ hours logged total.

OTHER COMMUNITY SERVICE

Elementary School Tutor 2011–2013
Math and Literacy Tutor
Helped first and second grade students learn math, reading, and writing for a few hours each week.

National Honors Society 2011–2013
Waterford Mott High School
Volunteered over 120 hours total with local organizations including homeless shelters, food drives, Special Olympics, and the Waterford Youth Assistance.

WORK

Greenskeeper 2014–2016
Sylvan Glen Golf Course — Troy, MI
Sylvan Glen is an Audubon certified public golf course. At Sylvan Glen we strove to conserve wildlife habitat on the course, conserve water, minimize environmental harm, and keep the nearly 100-year-old course beautiful.

Cashier 2013
Kmart — Waterford, MI
Every adolescent needs a first job.

UNIQUE INTERESTS

Computer Programming

Computers have been a interest of mine since high school, I started learning programming about four years ago. It is really sad to me that most people today have no idea what goes on inside their "black boxes" of technology. From a young age, I've always been one to take things apart (sometimes putting them back together) and that enthusiasm hasn't faded. Computers are used for everything imaginable today, I really only see them becoming more important and central to healthcare. For me, they provide a useful tool to create new ideas and solve problems that would be impossible with human intellect alone. In this regard, I am self-driven and self-taught. I love picking up new skills and I actively program in the areas of computer vision, machine learning, and data. Check out my GitHub at `https://github.com/griffincalme` and associated blog at `https://griffincalme.github.io`.

Reading

Most would consider it a hobby, for me it's a passion. I really only like to read books about science, technology, philosophy, and mathematics. I've learned so much from books, it really changes your worldview when you understand how everything works and how it all came to be. I've read 125 books in these genres over the past four years, check out my goodreads page here `https://www.goodreads.com/user/show/59024006-griffin-calme`

HONORS & AWARDS

WSU Undergraduate Research and Creative Projects Award	2016
HackWSU Hackathon second place team	2016
HealthPro Start	2013–2016
Honors College Scholarship Recipient	2013–2017
Waterford Institute for Public Service Recognition	2013
Waterford Mott Valedictorian	2013
Channel 7 Brightest and Best	2013
Waterford Mott Chemistry Student of the Year	2013
MHSAA Scholar Athlete	2012
Waterford Mott Biology Student of the Year	2011