



CARY WARREN SCHAEFER

GEORGIA INSTITUTE OF TECHNOLOGY | ATLANTA, GEORGIA
RISING BIOMEDICAL ENGINEERING 3RD YEAR | 3.21 GPA

OBJECTIVE

I am looking to take on meaningful challenges in precision medicine and human performance, as well as hone & diversify my skillset so that I may be better equipped to develop solutions that will better the human experience.

SKILLS

PROGRAMMING: C++ | Python | R | MATLAB | HTML | XML | TEI

SOFTWARE: Linux OS (Ubuntu) | Blender | PASS | PVS | Microsoft Office | QuickBooks

LANGUAGES: English (native) | Spanish (conversational)

ATHLETICS: College Rugby (USA U20 & MLR draft invites, Conference Champs) | Former DI Track Athlete at Georgia Tech | HS Track & Cross Country (2x National Qualifier)

LEADERSHIP & AWARDS

AWARDS: Faculty Honors & Dean's Scholar at Georgia Tech

DANCE MARATHON: Planning Committee (College & HS) | Collaborated to plan annual charity event for families dealing with pediatric cancer | Planning efforts have raised over \$340,000

INTERACT CLUB: Co-founder & President of community service & volunteering club as a joint between local Rotary & HS

TRACK & FIELD: 3x captain of successive 12th, 9th, & 2nd team finishes at State Championships

EXPERIENCE

UNIVERSITY OF IOWA COMPUTATIONAL PSYCHOLOGY & RADIOLOGY MAGNETIC RESONANCE GROUP | SUMMER 2019

MRI Embedding Utility

- **Product Design:** Built spectra processing pipeline to radically increase data acquisition & cut multiple hours from data processing (C++)
- **Functionality Testing:** Constructed quality assurance scripts for product | Received international feedback on product outline (R, MATLAB)
- **Product Distribution:** Distributed product throughout three continents

Bipolar Disease (BD) Machine Learning

- **Algorithm Development:** Developed machine learning scripts to process MRI imaging & metabolomics data (Python via Jupyter Notebooks)
- **Data Processing:** Identified physiological trends in BD & its phases for identification & treatment of BD (~5TB/day)
- **Pre- & Post-Processing:** Wrote scripts to increase preprocessing efficiency & provide quality assurance for the ML results (~50% increase in efficiency, R Studio)

UNIVERSITY OF IOWA ADVANCED PULMONARY PHYSIOMIC IMAGING LABORATORY | SUMMER 2017

PVS (Procedural Verification Software)

- **Software Development:** Qualitatively & quantitatively analyzed medical images to create learning data for algorithms
- **Product Release:** Worked with a team to translate algorithms into an approachable software interface

COPD & Neurofibromatosis Research

- **Data Analysis:** Identified & measured characteristics to create a better understanding of the diseases (~40TB/day, CT & MRI via PASS)

6TH GENERATION FAMILY FARM OPERATIONS | 2008-2018

RELEVANT COURSEWORK

BIOMEDICAL & HEALTH INFORMATICS

COVID-19 Modeling

- **Pandemic Forecasting:** Constructed deep learning (DL) models to predict spread & effects of public health measures on spread
- **Disease Progression:** Created DL algorithms using an array of medical data to model disease progression & impact on hospitals

GLOBAL HEALTH ENGINEERING

Research Grant for Developing World

- **Low-Resource Setting Assessment:** assessed the state of health needs across the developing world.
- **Grant Proposal:** worked with a team to submit an NIH grant to lessen the impact of COVID-19 & general healthcare risks in low-resource settings.



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