


Gregory Spangenberg

Data Scientist and PhD Student

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EXPERIENCE

DATA SCIENTIST | ELEUSIS THERAPEUTICS

Oct 2021 - Jan 2022 | Remote | Contract Part-time

- Successfully built and implemented a data ingestion pipeline
- Provided data management and analysis support to the Research Team by assisting with data ingestion, programming, implementation, analysis, and reporting of research outcomes.

RESEARCH ENGINEER | ROTH MCFARLANE HAND AND UPPER LIMB CENTRE

Sept. 2020 - Present | St. Joseph's Health Care London

- Responsible for conducting corporate sponsored orthopedic research
- Led a study to investigate the performance of Wright Medical Group's shoulder implant
- Designed and led a study to validate a surgical navigation system for Intellijoint surgical
- Gathered and analyzed data for LimaCorporate's FDA approval of an orthopedic implant

TEACHING ASSISTANT | DEPARTMENT OF MECHANICAL ENGINEERING

Sept. 2020 - Present | Western University

- Taught "Computational Methods for Mechanical Engineers" (MME 2221B), an introductory course on programming, data organization, processing techniques, numerical methods, and model formulation
- Led tutorial help sessions for students encountering issues with programming

STUDENT RESEARCH ANALYST | ROTH MCFARLANE HAND AND UPPER LIMB CENTRE

May - Aug. 2019 | St. Joseph's Health Care London

- Built a finite element simulation to analyze varus-valgus malpositioning of humeral total shoulder arthroplasty implants.
- Presented results of research and highlighted its clinical significance at the Undergraduate Summer Research day.
- Received the Dean's Award

RESEARCH

PHD THESIS | PYTHON

May 2020 - Present

- Leveraged python to automate the process of generating finite element bone model simulations from CT scans.
- Saw a 90% reduction in simulation setup time, from months of work to only days. This also allowed for a tripling of simulation sample sizes from 8 models to 24 with no associated increase in labor.
- Codebase is relied upon by 5 other research engineers to conduct their simulations.
- Algorithm is in use creating computational simulations that provide clinical recommendations to the team of Orthopedic Surgeons at the Roth McFarlane Hand and Upper Limb Centre.

SKILLS

PROGRAMMING

Proficient:

Python

Experienced:

R • L^AT_EX • MATLAB • SQL

Familiar:

C++ • Fortran • Shell

LIBRARIES/Frameworks

Pandas • Numpy • Scikit-learn
• Tensorflow • Plotly • Dash

TOOLS/Platforms

Git • AWS

LANGUAGES

English • German

EDUCATION

WESTERN UNIVERSITY

PHD MECHANICAL ENGINEERING

May 2020 - Present | London, Canada

WESTERN UNIVERSITY

BESC. MECHANICAL AND

MATERIALS ENGINEERING

Sept 2016 - May 2020 | London, Canada

• 2020 Dean's List

• 2020 Academic All-Canadian Award

SPORT

60M SPRINT HURDLER

WESTERN UNIVERSITY VARSITY TRACK

AND FIELD TEAM

Sept 2017 - Present