

BRANDON CUNNANE

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EXPERIENCE

Application Scientist | L7 Informatics (Jan 2023 - Feb 2024)

Software development of laboratory applications for healthcare clients

- Automated data (JSON, CSV) processing, analysis, and report generation with Python
- Leveraged SQL and Python pandas to access PostgreSQL database to inform application design
- Enhanced data quality via data validation in JavaScript and unit testing in Python pytests
- Translated clients' scientific processes into application and PowerBI dashboard requirements
- Collaborated in an Agile software development team utilizing Git, Jira, Confluence

Physics Graduate Researcher | UCSD Radiology Imaging Lab (Aug 2020 - Aug 2022)

Quantitative analysis of muscle strain via MRI image processing

- Designed Python NumPy scripts for processing and integrating MRI datasets (DICOM, CSV)
- Developed Python NumPy pipelines to analyze processed MRI data to compute muscle strain
- Executed Python pandas statistical analysis of fiber strain across patients and foot angles
- Produced published data visualizations (plots, heatmaps, animations) with Python matplotlib
- Published [paper](#) on muscle physiology findings in Nature's *Scientific Reports*

Mechanical Engineer | Abbott Laboratories (Aug 2016 - Aug 2020)

Data analysis of electromagnetic field (EMF) effects on pacemakers

- Wrote Python scripts to process and organize raw EMF heating data in CSV files
- Executed data analysis to validate thermal model predictions against measured heating data
- Accelerated quality testing by automating measurements via Python-controlled robotic system
- Reduced quality testing with statistical procedure to compare EMF models for similarity
- Operated under FDA quality requirements and led a CAPA response to FDA observation
- Presented data analysis results to key stakeholders and senior leadership

EDUCATION

M.S. Applied Physics - Medical (Aug 2022)

San Diego State University

B.S. Mechanical Engineering (Jun 2016)

California Polytechnic State University, San Luis Obispo (Cal Poly SLO)

SKILLS

Python (NumPy, pandas, matplotlib, pytests, SciPy) | Excel | SQL | Tableau | Git | JavaScript