PETER JOSEPH SAUER

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EDUCATION

Carnegie Mellon University   **Pittsburgh, PA**
Bachelor of Science in Neuroscience (Computational Neuroscience Track) (GPA: 3.91/4.00)   Aug. 2019 – May 2023
- Extracurriculars: CMU EMS, SPIRIT Buggy, CMU Global Public Health Brigades

TECHNICAL EXPERIENCE

Carnegie Mellon University   **Pittsburgh, PA**
Research Assistant   Sept. 2020 – Present
- Researched algorithms that mimic human decision-making and learning skills
- Currently working with a PhD student on optimizing algorithms to fit more general decision-making situations

Carnegie Mellon University   **Pittsburgh, PA**
CS Teaching Assistant (Course: 15-104)   Sept. 2020 – Present
- Teach freshman basic skills of coding (course particularly focuses on website design)
- Hold recitations, office hours to solve coding problems

BioMotivate   **Pittsburgh, PA**
Clinical Research Coordinator   Sept. 2019 – Jan. 2020
- Coordinated and assisted with research for a health technology startup focused primarily on opioid addiction
- Constructed the study design, wrote informational materials, and coordinated experiments on research participants

Brigham and Women's Hospital   **Boston, MA**
Research Assistant   June 2019 – Sept. 2019
- Researched various effects of Bi-RF Ablation in association with esophageal probes and lesion sizes
- Constructed apparatus and performed ablations on pig esophageal tissue to mimic treatment on Left Atrium Arrhythmias
- Extracted and analyzed experimental data utilizing Microsoft Excel and MATLAB to determine proper ablating practices

Boston University   **Boston, MA**
Research Assistant   June 2019 – Sept. 2019
- Processed signals in patients' physiological systems to observe fractal properties
- Compiled data from ECG power spectrums in healthy patients and ones with Parkinson's Disease
- Applied MATLAB coding skills to program a DFA method to compute a log-log relationship in presented data

University of Colorado Hospital   **Aurora, CO**
Research Assistant   June 2018 – Aug. 2018
- Analyzed and managed data as part of a cohort study evaluating arrhythmia treatments
- Utilized IBM SPSS and REDCap to show causative relationships in various patients

SELECTED PUBLICATIONS

Peer-Reviewed Manuscripts:
1. **Sauer PJ**, Kunkel M, …Tzou WS; Successful Ablation of Ventricular Tachycardia Arising from a Mid-Myocardial Septal Outflow Tract Site Utilizing a Simplified Bipolar Ablation Setup. *Heart Rhythm Case Reports* 2019 Feb; 5 (2); 105-108

Scientific Abstracts:
1. N Beck, **P Sauer**, …W Tzou; Ablation for Management of Ventricular Tachycardia in Patients with Severe Heart Failure is Associated with Lower Incidence of Heart Failure Readmissions Compared to Medical Therapy Alone. *Journal of the American College of Cardiology* 2019 Mar 12; 73(9 Supplement 1); 456

PROJECTS

COVID-19 Effects on Social Capital   **Mar. – Apr. 2020**
- Conducted a research study with 200+ students from Carnegie Mellon University and Wellesley College
- Used statistics to conclude that students had deficiencies in Social Capital maintenance as a result of social isolation
- Formulated a connection between Social Capital phenomena and the Atkinson and Shiffrin Memory Model

Educational Typing Frogger   **Mar. – Apr. 2020**
- Included a multiplayer mode, computer mode, and typing mode in addition to a full-functioning game of Frogger
- Used web-scraping (bs4) to gather English words online for typing mode, and used if-statement AI for computer mode
- Learned about project time management and organizing code on a medium-scaled project

"Effects of Mutations on Non-Induced vs. Induced Proteins"   **Dec. 2019**
- Worked with another student to observe the effects of non-induction vs. induction of mutated genes
- Isolated DNA into cells, inoculated cell cultures, and analyzed proteins with gel electrophoresis and absorbance assays

TECHNICAL SKILLS

- Coding: Python, MATLAB, HTML/CSS/Javascript
- Certifications: NREMT Certified
- Software: Arduino, IBM SPSS, REDCap, Adobe, ApE, Microsoft Office