Sanjay Soundarajan

Email: ssoundarajan@calmi2.org • Web: sanjaysoundarajan.dev
github.com/megasanjay • **linkedin**.com/in/sanjay-soundarajan

EXPERIENCE

FAIR DATA INNOVATIONS HUB - CALIFORNIA MEDICAL INNOVATIONS INSTITUTE San Diego, CA
Web Software Developer Nov 2020 - Present

- Develop, build and maintain software applications that help researchers in biomedical fields curate and submit data to be FAIR.
- Architect and develop the [**fairhub.io**] cloud platform for researchers of the [**AI-READI**] project to submit and disseminate datasets from experimental studies on diabetes.
- Create and maintain the organizations' websites and all product documentation.
- Published novel development and findings in suitable scientific journals to share our findings with researchers and developers of FAIR data software tools.

INTERNATIONAL OFFICE - CALIFORNIA STATE UNIVERSITY, FRESNO Fresno, CA
Marketing Intern Jan 2020 - May 2020

- Worked with multiple departments by strategizing new methods of connecting with students through social media.
- Organized events that allow for interaction between students of multiple diverse backgrounds.

COLLEGE OF SOCIAL SCIENCES - CALIFORNIA STATE UNIVERSITY, FRESNO Fresno, CA
Research Assistant Jun 2018 - Dec 2019

- Assist in the task of information gathering, editing and verifying for 'American Chinese Restaurants - Society, Culture and Consumption' published by Taylor Francis Group. [**Book**]
- Gather and categorize sources for multiple research articles in the fields of South-East Asian American anthropology.

PUBLICATIONS

- **Making Biomedical Research Software FAIR: Actionable Step-by-step Guidelines with a User-support Tool** [**Paper**]
  - Proposal of FAIR Biomedical Research Software (FAIR-BioRS) guidelines, offering actionable step-by-step instructions to biomedical researchers for making their research software FAIR-compliant, along with the development of FAIRshare, a free and open-source software application facilitating the curation and sharing of FAIR biomedical data and software.
- **SPARClink: an interactive tool to visualize the impact of the SPARC program** [**Paper**]
  - The SPARC program accelerates therapeutic device development using nerve stimulation for organ function improvement, sharing curated datasets publicly on the SPARC data portal according to FAIR guidelines.
  - SPARClink is a web tool that showcases the impact of SPARC outcomes by automatically tracking and visualizing published SPARC scientific outputs and external resources, demonstrating the benefits of FAIR data curation and sharing practices. (Vue 3, Python, Flask)
- **CPU-GPU Collaborated Computation Models for Biological Sequence Alignment with Mirror-Based Work Load Balancing** [**Paper**]
  - A Mirror-based load balancing approach to aligning DNA fragments against DNA databases using the Smith-Waterman algorithm in heterogeneous computation by the CPU and GPU. (C++, Nvidia CUDA).
- **PDMF: Parallel Dictionary Motif Finder on Multicore and GPU** [**Paper**]
  - A high-performance computing version of the motif searching algorithm that utilizes multiple cores on CPUs and GPUs. (C++, Nvidia CUDA)

PROJECTS

- **Gaze-Based Virtual Keyboard [Paper]**
  - Allows users with motor disabilities to type by providing a virtual keyboard that uses eye tracking for key presses. (C#, .Net framework and Tobii SDK for eye tracking)
- **High Performance Motif Searching** [**Paper**]
  - A novel method of utilizing high performance computing devices to find motifs in biological databases. (C++, Nvidia CUDA, Intel SSE instruction set)

EDUCATION

CALIFORNIA STATE UNIVERSITY, FRESNO Fresno, CA
Master of Computer Science (GPA: 3.75, Magna Cum Laude) w/ specialization in Parallel Computing Aug 2018 - May 2020
Coursework: Algorithm Analysis, Bioinformatics, Databases

CALIFORNIA STATE UNIVERSITY, FRESNO Fresno, CA
Bachelor of Science in Computer Science (GPA: 3.55, Cum Laude) Jan 2015 - May 2018