José Bravo

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Objective

Pursuing a career in data science through an entry-level position that best develops my training in mathematics, statistics, physics, and computer science.

Education

Bachelor of Arts, Mathematics (Applied)
Bachelor of Arts, Physics
　　California State University, Sacramento | Sacramento, CA | May 2021

Relevant Coursework

　　Classical Mechanics, Optics, Thermodynamics, Electronics and Instrumentation, Advanced Physics Laboratory, Mathematical Methods, Real Analysis, Complex Analysis, Abstract Algebra, Programming Methods, Probability and Statistics, Statistical Computing, Big Data

Projects

Topological Flips – Senior Project　　　　　　　　　　　　　　　　　　　　　　　　　June 2020 – May 2021

- Studied Lie Group to represent popular skateboard stunts as algebraic structures. Wrote a Python module containing a dictionary of various tricks as elements in $SO(3)$. Used the SymPy library to create symbolic rotational matrices.

- Created multiple Python classes for this software including converting symbolic to numeric matrices, and animation classes to create a GIF or MP4 of a given stunt.

Technical Profile

- Extensive hands-on experience with object-oriented/object function scripting languages specifically Java, C++, Python, R, and Julia. Created functions, classes, and transported code from provisional drafts into scripts and packages. Continued good software development practices and strong documentation skills by building concise, high-quality code and iterating, validating, and debugging algorithms. Adept at test-driven development.

- Proficient in statistical methodologies such as hypothesis testing, linear and logistical regressions, generalized additive models (GAM), and distributional tests. Experience using k-means clustering and principal components analysis (PCA) as statistical (unsupervised) learning models. Automating statistical analysis using various programming languages.

- Extensive use of graphical plotting libraries in Julia, Python, and R for data visualization. Built simple applications in Python using Tkinter library and built dashboards using Shiny.

- Knowledge of big data analytics via training in cloud computing. Installed Windows Subsystem for Linux (WSL), Ubuntu Linux distribution, and Git Bash (Unix Shell) to access Amazon Web Services (AWS) on local machine. Practiced querying and manipulating large data sets using SQL language via Amazon S3, Amazon Athena and PostgreSQL. Used an AMI to launch an EC2 instance and Julia or Python scripting language to acquire, navigate, clean, and shape large data sets in order to find trends, patterns, and insights.

- Comfortable working in Linux environment and shell scripting. Assembled network-attached storage (NAS) using a Wi-Fi network, a hard-disk drive (HDD), Raspberry Pi 4, Debian-based Raspberry Pi OS, and OpenMediaVault (OMV).

- Practiced reservoir sampling, pipeline implementation, and natural language processing (NLP). Worked with dense and sparse data structures and implemented dimensional reduction. Optimized memory efficiency by monitoring performance, identifying bottlenecks, and utilizing parallel processing or multiprocessing when necessary.

- Three academic years of experience analyzing laboratory and experimental data. Became proficient in use of MS Office Suite and LaTeX to write technical papers and laboratory reports. Also used Wolfram Mathematica for scientific computing. Versed in use of Git software for version-control along with an active GitHub profile.

- Presented to a class of 12 students summaries on contemporary articles from arXiv pertaining to active research in astrophysics. Maintain a high level of interpersonal skills. Languages: Spanish (Read/Speak)

Employment History

Wilderdog - Sacramento, CA　　　　　　　　　　　　　　　　　　　　　　　　　　　August 2021 – Present
　　Warehouse Associate
Monterey Bay Aquarium Gift and Bookstore - Monterey, CA　　　　　　　　　　　　　May 2012 – June 2018
　　Sales/Stock/Warehouse Associate