CLEO LEPART

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Junior Physics Student

CORE PROFICIENCIES

- Python
- C++
- Excel
- Spectroscopy
- Technical Writing
- Data Analysis/Processing
- Mathematica
- Differential Calculus, Linear Algebra
- French, Spanish, Russian language

EDUCATION

Pursuing: Bachelor of Arts Degree in Physics

Currently attending University of California, Berkeley, *August 2022 – Present*

(Expected Graduation: June 2024), GPA 3.4

Activities

President of Santa Rosa Junior College Society of Physics Students, Fall 2020 – Spring 2021

Conference volunteer organizer/presenter (Conference for Undergrad Women in Physics 2020-2023, PhysConn 2022)

Peer mentor (Math and Physical Sciences Scholars,) Spring 2023 – Present

RELEVANT COURSEWORK & SKILLS

Programming

- *Applied Python data analysis methods, SciKit, AstroPy and database retrieval, SQLite, on spectroscopy data*
- *Experience with Python's numerical/graphing methods in online SPS-led Astrophysics course at Univ. of AZ*
- *Completed 1st and 2nd-semester C++ courses, Functions to Abstract Data Types*
- *Designed and fabricated 3D-printed mechanical stage parts for optical interferometry in Fusion360*
- *Completed online MITx: Introduction to Programming with Python*

Physics

- *Completed upper division courses: Quantum Mechanics, Electromagnetism, Statistical Mechanics, Mathematical Methods; Seminar course in General Relativity and in Topology*

Publications

- *Pat, F.; Juneau, S.; Böhm, V.; Kim, A. G.; Lepart, C. et al (21 Nov. 2022) "Reconstructing and Classifying SDSS DR16 Galaxy Spectra with Machine-Learning and Dimensionality Reduction Algorithms". arXiv:2211.1178*

PROFESSIONAL EXPERIENCE

AFFILIATE RESEARCH VOLUNTEER | Lawrence Berkeley National Laboratory, Berkeley, CA | June 2021 to Present

- As a DOE Summer Undergraduate Laboratory Intern, I began work on the Dark Energy Spectroscopic Instrument project, to detect outlier, anomalous multi-messenger and tidal disruption events purely through cosmological spectroscopic data
- Self-taught familiarity with statistical analysis, numerical data analysis in Python, AstroPy, and SQLite for database communication

PHYSICS TEACHING ASSISTANT | Santa Rosa Junior College | January 2020 – May 2022

- Provides guidance and direction via group and individual tutoring to improve STEM and analytical skills for students in math and physics
- Developed supplementary coursework for Intermediate Algebra, Electromagnetism, Classical Mechanics, responsibility for non-exam grading

ASSISTANT PRODUCER | Old Navy, San Francisco, CA | September 2015 to January 2019

- Employed for ability with spreadsheet and data management in Excel in office and on location
- Created scripts and contributed improved processes for data-entry accuracy and data manipulation in Excel

ESOL & RUSSIAN INSTRUCTOR | International Institute for Management, Algiers, Algeria | February 2014 to February 2015

- Responsible for teaching grammar, conversation, reading and writing to adults and adolescents of all levels
- Designed curriculum tailored to specific goals: e.g. improving idiomatic understanding, increasing scores on standardized English language exams

FURTHER LANGUAGE EXPERIENCE |

- Attended University College London for 3 semesters (2011 – 2012) in the Russian program at the School of Slavonic & Eastern European Studies
- Lived in Paris for 3 years, becoming fluent in French, earning certificates in French, Arabic and French-to-English translation
- Studied Russian at private and public schools in Russia, St. Petersburg (2010) and Kazan (2012)