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Nicholas Werner

Physics Grad, Air Force Veteran, Scientific Computing Specialist

EDUCATION

Master of Science, Computational Physics **Dec 2020**
California State University, Long Beach
Thesis Title: Plasmon Spectrum of Twisted Bilayer Graphene
Abstract: Stacked "magic angle" graphene has many unusual properties including tunable superconductivity. In hopes of explaining this phenomenon, we developed high-performance Python code to compute a particular electron behavior (the acoustic plasmon) in this system.

Bachelor of Science, Physics - Minor in Computer Science **Dec 2017**
California State University, Long Beach
Selected Coursework: Data Structures & Algorithms, Game Theory, Data Science

EXPERIENCE

Teaching Associate **Jan 2019–Dec 2020**
CSU Long Beach *Long Beach, CA*
- Maintained student engagement in pandemic-distanced learning with online physics labs
- Drove student success, leading interactive lab sessions in Astronomy & Electricity/Magnetism
- Redesigned grad-level computational physics coursework, refactored Fortran code to Python

Geophysical Data Engineer **Dec 2013 – Mar 2015**
US Air Force *Cocoa Beach, FL*
- Slashed inefficiencies in Windows/Linux data workflow to reduce processing time by 60%
- Created custom data workflow visualization software with Python to facilitate rapid analysis
- Developed Java program to convert geophysical calculation results into XML format
- Wrote training materials and standard operating procedures for brand-new work center
- Drafted 18 technical reports to clearly communicate analysis findings to senior leadership

Geophysical Data Analyst **Mar 2011 – Dec 2013**
US Air Force *Cocoa Beach, FL*
- Analyzed 7.5k seismic events with 90% accuracy – highest data quality in 30-person shop
- Supervised shifts of up to 6 Airmen – held daily responsibility for data quality and timeliness
- Earned shift leader position in 1 year - 6 months ahead of standard training schedule
- Cross-trained into part-time Satellite Data Analysis, alleviating chronic personnel shortage

SKILLS

- Scientific computing - ODE methods, linear algebra, curve fitting in Fortran/Python
- Python - numerical computing, multithreading, data analysis, data visualization
- Linux/UNIX command line - bash scripting, file handling, automation
- Technical writing – drafting standard operating procedures, scientific analysis reports
- Security clearance - Held Top Secret/SCI access from 2011 to 2015