Lucas Saldyt

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Experience

NASA Glenn Research Center   Cleveland, Ohio
Machine Learning Intern   *Jan. 2020 - Current*

- Architected a modular data mining library which aggregates and carefully refines image, article, and taxonomy data on all 1.9 million living species, capable of running on an average laptop in an hour (Python, neo4j, nltk)

- Improved a search engine by expanding the natural language processing system using a uniquely invented topic translation algorithm, which will enable engineers to find unique engineering solutions inspired by solutions employed by catalogued species (Python, neo4j)

- Drafted efficient algorithm for building and querying the internal graph database using trie data structure and precomputation (Python, neo4j)

- Statistically tested and then integrated experimental machine learning algorithms for image classification and segmentation, pattern fitting and parameter estimation, and natural language processing (Python, tensorflow, nltk)

NASA Kennedy Space Center   Cape Canaveral, Florida
Software Engineering Intern   *Jun. 2019 - Aug. 2019*

- Benchmarked and developed class A, safety-critical, human rated spaceflight ground control software by participating in the full software development lifecycle and using agile processes (C++)
- Independently prototyped original display profile saving system for launch control engineers, effectively saving each engineer half an hour of setup time during each launch, and minimizing the probability of human error during setup (Java)

Sandia National Laboratories (Dr. Erik Nielsen)   Albuquerque, New Mexico
Quantum Computation Research Intern   *Jun. 2015 - Sep. 2018*

- Developed quantum benchmarking (Gate Set Tomography) software meant to perform computational experiments with sufficient fidelity for publication (Python, C++, numpy)
- Created distributed high-performance simulation, verification, and data analysis software by carefully profiling software and distributing across available supercomputing clusters (Python, matplotlib, seaborn, SLURM)
- Assisted in publishing papers in quantum benchmarking
- Presented in Brussels, Belgium at the FOSDEM Software Conference

ASU Complex Systems Research (Dr. Yun Kang)   Tempe, Arizona
Mathematics Research Assistant   *Oct. 2018 - Jun. 2019*

- Unique math/computer modeling of ant nest choice which elucidates the core concepts while still matching experimental data
- Created intuitive visual data analysis of live random forest machine learning algorithm effectiveness

Education

Arizona State University: Barrett, The Honors College   Tempe, Arizona
Bachelor of Science in Computer Science, GPA: 3.6   *Sep. 2017 - May 2021*

Skills

Programming Languages: Python, C++, Java, Bash, Clojure (LISPs), Haskell, C, MATLAB, R, Fortran

Technologies: tensorflow, numpy, pandas, nltk, neo4j, SQL, postgresSQL, mongoDB

Applications: Vim, LaTeX, Git, MPI, Supercomputing (Slurm), Jupyter Notebook, Autodesk Design

Operating Systems: Linux, MacOS X, Windows

Natural Languages: English, Ukranian, Spanish