Alexander A. **Kaszynski**

Principal Engineer and Software Developer

Profile Summary

A highly experienced and innovative mechanical engineer with a strong background in software development, independent research, and data-driven cloud native solutions.

Contact Information

Lafayette, Colorado 80026
United States of America

Alex Kaszynski
akaszynski
Alex Kaszynski
Active Research

Areas of Specialization

- Cloud Engineer
- Open Source Leader
- Data Scientist
- FEA Researcher

Software Skills

- Python
- Kubernetes
- Docker
- C/C++
- TypeScript
- Cloud (Azure)
- GitHub
- REST & gRPC
- Bash

Work Summary

Apr 2014 - Present
Subcontractor Supporting AFRL, AFLCMC, and NASIC
Principal Scientist and Software Engineer ·
Develop and maintains advanced software tools used in production environments in the aerospace industry. Works extensively on finite element analysis and mesh metamorphosis. Full stack software developer.

June 2019 - June 2023
Ansys
Principal Software Developer · Boulder, CO
Pioneered the PyAnsys project and created advanced software interfaces for Ansys products. Developed and deployed data-driven cloud solutions, managed developer teams, and collaborated across business units.

Mar 2009 - Mar 2021
Amazon Seller - Brooke's Books
Business Owner ·
Founded, managed, and sold a successful million-dollar grossing Amazon business. Utilized data analysis and automation tools to purchase and price a diverse set of textbooks and managed remote contractors for inventory management.

Mar 2011 - Apr 2014
Captain, United States Air Force
Principal Engineer · Wright-Patterson AFB, OH
Provided analysis for turbo-mechanical components and developed algorithms for reverse engineering and analytical response analysis using computer aided engineering software and MATLAB. Identified root causes of component failure and contributed to design improvements.

Education

Jul 2009 - Mar 2011
Master of Science in Mechanical Engineering
Air Force Institute of Technology · Wright Patterson AFB, OH
Thesis: X-Hale: The Development of the Research Platform for the Validation of Non-linear Aeroelastic Codes, Advisor: Lt Col Chris Shearer, GPA: 3.383

Jun 2005 - May 2009
Bachelor of Science in Astronautical Engineering
United States Air Force Academy · Colorado Springs, CO
Senior Capstone: Chief of Integration, Analysis, and Testing for FalconSAT-5, Distinguished Graduate, GPA: 3.52

Open Source Projects

pyvista `https://github.com/pyvista/pyvista`
Co-created a Python library to interface with VTK through numpy and direct array access. This simplifies mesh creation and plotting wrapping existing VTK classes. This library can be used for scientific plotting for presentations and research papers as well as a supporting module for other mesh dependent Python libraries. Over 1.8k GitHub stars and used in a variety of closed and open source research and commercial projects. Regular presenter of the software at the Scipy Conference.

PyMAPDL `https://github.com/ansys/pymapdl`
Python library to interface with MAPDL as well as extract data from Ansys binary files and to display them using `pyvista`. Supports (.rst) and (.full) files. Programmed in Python, Cython, and C. In use by universities, Air Force Research Laboratory, and several commercial agencies.

Python keepa API `https://github.com/akaszynski/keepa`
Python library to interface to `https://keepa.com/` to query for Amazon product information and history. Achieves fast and efficient queries using a synchronous or non-synchronous server queries using multi-threading or `asyncio`.

pymeshfix `https://github.com/pyvista/pymeshfix`
Python/Cython wrapper of Marco Attene's award-winning MeshFix software. This library brings the speed of C++ with the portability and ease of installation of Python.

Extended Resume Follows