**Anil Kumar, PhD (US Permanent Resident)**
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## Profile Summary

Over ten years of research experience in computational materials modeling, data science and statistical analysis. Hands-on experience in programming in Python, R, Fortran, C/C++ and performing mathematical and statistical analysis, data mining and machine learning. Excellent interpersonal, oral and written communication skills, ability to quickly learn new tools and techniques to solve problems.

## Professional Experience

- **Research Associate, Los Alamos National Laboratory** (09/2013-Present): Machine learning, Deep learning, Materials informatics, Data mining, Statistical analysis and prediction to discover new materials with targeted property, Microstructure reconstruction of polycrystal materials from X-ray diffraction images, Structure-properties relationship
- **Postdoctoral Research Associate, Rutgers University** (09/2010-08/2013): Materials modeling and simulations, Data analysis and visualization, Scientific presentations and publications
- **Graduate Research Assistant, JNCASR, Bangalore** (08/2005-08/2010): Development of materials modeling simulation programs, Data analysis /visualization, Presentation and publications.
- **Summer Intern, General Electric, Bangalore** (06/2009-08/2009): Finite Element Modeling of metal/oxide interface to enhance conductivity at interface and understand oxygen diffusivity in metals

## Education

- **PhD in Physics (2010):** Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore, India
- **MSc in Physics (2005):** Banaras Hindu University, Varanasi, India
- **BSc in Physics, Mathematics and Computer Science (2003):** Gorakhpur University, Gorakhpur, India

## Programming and Data Science Skills

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|---|---|
| • **Python, R, Fortran, C/C++** | • **Data Analysis, Machine Learning, Deep Learning** |
| • **Numpy, Scipy, Pandas, Matplotlib, Seaborn** | • **Statistical Analysis and Uncertainty Quantification** |
| • **Scikit-learn, Keras, Tensorflow** | • **Recommender Systems, NLP** |
| • **Big Data, Hadoop Ecosystem** | • **Classification and Regression Analysis** |
| • **MapReduce and Apache Spark** | • **HPC, AWS, Cloud computing** |
| • **SQL/PostgreSQL** | • **Mathematica, Matlab, MS Office, Latex** |

## Computational Materials Modeling/Physics Skills

- **Multiscale Modeling, Atomistic Simulations (MD/MC), Density Functional Theory**
- First-principles Modeling and Simulations of Metals and Alloys, Structure-Property Relationship
- First-principles DFT Software: **VASP, Quantum Espresso, Abinit, Siesta**
- Molecular Dynamics Software: **LAMMPS, Gromacs, NAMD, FERAM, Materials Studio**
- Considerable domain **knowledge of Physics and Materials Science**

## Transferable and Soft Skills

- **Critical thinking, Problem solver, Attention to details, excellent time/project managements skills**
- Expertise in preparing **technical reports, publications and presentations**
- Team Player: **Enjoy working with people of different backgrounds and interests**