Opportunity Title: Machine Learning and Data Science Engineer-PGRP
Opportunity Reference Code: NETL-2018-PGRP-VanEssendelft-1

Organization National Energy Technology Laboratory (NETL)

Reference Code NETL-2018-PGRP-VanEssendelft-1

How to Apply A complete application consists of:

- An application
- Transcripts
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional references

Please send a CV to Dirk Van Essendelft at dirk.vanessendelft@netl.doe.gov

All documents must be in English or include an official English translation.

If you have questions, send an email to NETLadmin@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 3/31/2019 11:59:00 PM Eastern Time Zone

Description Through the Oak Ridge Institute for Science and Education (ORISE) this posting seeks motivated motivated post-graduates (M.S. or PhD) interested in developing new machine learning closures, models, and algorithms to continue to reduce computational time to solution at the National Energy Technology Laboratory (NETL). NETL is a multi-disciplinary, scientific and technical-oriented national laboratory.

The ML-CFD research group at the National Energy Technology Laboratory (NETL) has formed a new effort centered around the acceleration of Computational Fluid Dynamics (CFD) using machine learning and hardware acceleration (GPU's, TPU's, FPGA's, etc). NETL has developed software links between MFiX (NETL's inhouse CFD code) and Google's TensorFlow. NETL is using TensorFlow to shift computational load to advanced accelerator hardware as well as develop ML based algorithms and/or hybrid algorithms that can significantly increase computational speed while maintaining accuracy. This is bleeding edge research that has already proven to dramatically reduce time to solution.

Qualifications

- Experience with high performance computing platforms and CFD software packages such as the NETL MFiX Suite (most preferred)
  - ANSYS FLUENT, CPFD-Barracuda, or OpenFOAM is preferred.

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- In addition, experience with TensorFlow (most preferred) or another ML software is highly preferred.
- An M.S./Ph.D. degree in engineering, computational science, mathematics or a closely related discipline is required.
- Working knowledge of Fortran and Python is strongly preferred.

Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Communications and Graphics Design** (2 👁)
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (45 👁)
  - **Mathematics and Statistics** (10 👁)
  - **Other Non-Science & Engineering** (2 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (1 👁)
  - **Social and Behavioral Sciences** (27 👁)

Affirmation

I certify that I:

- Have an earned or will receive a doctoral or master's degree by appointment start date.

OR

- Have received the degree no more than three years before the date of application (postmasters' applicants).

OR

- Have received the degree no more than five years before the date of application (postdoctoral applicants).