CLEAN ENERGY INSTITUTE

UNIVERSITY *of* WASHINGTON

DIRECT: Data Intensive Research Enabling Clean Technologies

A graduate training program of the Clean Energy Institue for UW graduate students interested in data enabled discovery and design of advanced materials for clean energy

PROGRAM DETAILS

Discovering new materials that will generate and store renewable energy in a low cost, environmentally benign and scalable fashion is perhaps the most important technological challenge facing society today. However, all phases of this scientific process – design, synthesis, and characterization – are routinely stymied by the same challenge: researchers are not equipped to handle the deluge of data coming from their labs and high performance computers. DIRECT, a Clean Energy Institute training program, funded by the National Science Foundation, provides training that will equip a new generation of energy researchers to handle the massive data sets arising from all stages of materials discovery.

DIRECT provides UW graduate students the opportunity to receive data science training, practice applying new tools and skills in a project-based learning environment, and gain experience working with industry and academic partners on a team-based capstone project.
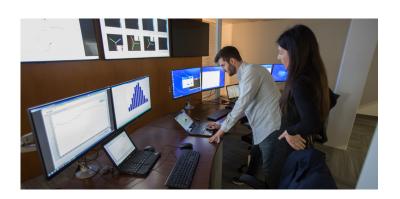
APPLICATION

- Applications for Ph.D. students available online, due May 1
  https://www.cei.washington.edu/education/uw-graduate-students/graduate-fellowship/
- Applications for MS students will be available in September
  depts.washington.edu/uwdirect/

APPLY NOW

All application material must be submitted by May 1, 5:00pm

University of Washington Clean Energy Institute | depts.washington.edu/uwdirect | uwdirect@uw.edu

As a DIRECT trainee you will:

- Participate in a customized 2 course sequence to gain supplementary training in data sciences and materials design.
- Work with a team on a data-intensive research project, receiving regular feedback from project sponsors and training experts.
- Opportunity for internships with industry partners.
- Participate in data science seminars, events, training, and professional development activities organized by the Clean Energy Institute, the eScience Institute, and the DIRECT program.
- Have the opportunity to apply for stipend and tuition support to complete an independent data science project after completion of coursework and team research project.

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APPLICATION REQUIREMENTS

Students should apply directly, via the Clean Energy Institute Graduate Fellowship Application.

(i) a 150 (max) word statement of the student's anticipated research during the award period; (ii) a 50 word (max) statement regarding the student's graduation timeline and career goals; (iii) a CV (not to exceed two pages) listing undergraduate GPA, UW graduate GPA, publications, presentations, awards, and participation in education and broader community activities; (iv) two letters of reference, at least one of which is from a UW faculty member; (v) two additional 150 (max) word statements on why DIRECT is important for your future career goals and the importance of data science methods in your current/future research plans.

ELIGIBILTY

To be eligible for traineeship during the 2021-2022 academic year:

- Ph.D. students are eliglible after completing their first year.
- Master students should be in their first year (applications for MS open in September).

QUALIFICATIONS

Qualified applicants will have academic record in relevant coursework, applicability of data science to current research, applicability of data science to future career goals, and can demonstrate potential impact of data science on UW labs, research, and other UW students by participation.

FINANCIAL SUPPORT

Limited funding available for Ph.D. students. All Ph.D. students who apply for DIRECT will be considered for financial support. Both Ph.D. and Master students are eligible to participate in traineeship.

TRAINEESHIP SCHEDULE

Acceptance into the program provides a 1 year designation as a DIRECT trainee

Autumn Quarter: DIRECT trainees will participate n CEI onboarding day in early fall quarter.

Winter Quarter: DIRECT trainees will participate in 2 course sequence to gain comprehensive training in Python programming, statistics, data science methods, and practical application of data science to molecular and materials problems.

Spring Quarter: DIRECT trainees will participate in capstone project course, working on a real research project/problem related to issues of data management, processing or statistics as applied to design of new materials. Program staff and faculty will customize the project experience to be relevant to trainees PhD or MS theses/projects.

Summer Quarter: DIRECT trainees will have the opportunity to apply for Data Science Accelerator Award to support an independent innovative data science project related to their thesis project.

LEARN MORE

To learn more about the program, visit depts.washington.edu/uwdirect/

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