

#### **PRINCETON** UNIVERSITY

# SPRING 2024 MINI-COURSES AND WORKSHOPS



Register at https://researchcomputing.princeton.edu/workshops

# **RESEARCH COMPUTING FUNDAMENTALS**

BIG DATA, EASY ACCESS: EXPLORING PRINCETON'S CLUSTERS FOR THE SOCIAL SCIENCES AND HUMANITIES FEBRUARY 12 | 4:30-6:00 PM Mattie Niznik, Research Software & Programming Analyst

INTRODUCTION TO THE LINUX COMMAND LINE (PARTS 1 & 2) FEBRUARY 13 AND 14 | 3:00-4:30 PM Galen Collier, Director of Researcher Engagement

Galen Comer, Director of Researcher Engagement

COMMAND-LINE POWER TOOLS FEBRUARY 15 | 3:00-4:30 PM Galen Collier, Director of Researcher Engagement

FROM CONSOLE TO CLUSTERS: MASTERING SLURM, DATA STRATEGIES, AND HIGH-PERFORMANCE COMPUTING AT PRINCETON (PARTS 1 & 2) FEBRUARY 19 AND 20 | 4:30-6:00 PM Mattie Niznik, Research Software & Programming Analyst

REMOVING THE TEDIUM FROM YOUR RESEARCH WORKFLOW FEBRUARY 21 | 4:30-6:00 PM

Jonathan Halverson, Research Software and Computing Training Lead

# HOW TO COMPILE AND INSTALL OPEN-SOURCE SOFTWARE YOURSELF

MARCH 26 | 4:30-6:00 PM Prentice Bisbal, Senior HPC Engineer, PPPL

#### PYTHON PROGRAMMING

INTRODUCTION TO PROGRAMMING USING PYTHON (PARTS 1, 2 & 3)

### **MACHINE LEARNING**

- GETTING STARTED WITH MACHINE LEARNING IN PYTHON FEBRUARY 28 | 4:30-6:00 PM Julian Gold, DataX Data Scientist, CSML
- **GETTING STARTED WITH DEEP LEARNING USING PYTORCH**

David Turner, Sr. Research Software Engineer

#### REINFORCEMENT LEARNING FROM HUMAN FEEDBACK WITH HUGGING FACE

MARCH 7 | 4:30-6:00 PM Costa Huang, Machine Learning Engineer, Hugging Face



#### A.I. TOOLS FOR YOUR RESEARCH WITH GOOGLE CLOUD PLATFORM

MARCH 11 | 10:00 AM-12:00 PM Stay for lunch with Google staff at 12:00-1:00 PM



#### WELCOME TO THE NEURAL NETWORK ZOO: A SURVEY OF ARCHITECTURES FOR YOUR RESEARCH MARCH 25 | 4:30-6:00 PM

Gage DeZoort, Postdoctoral Research Associate and Lecturer, Physics

#### **ACCELERATED COMPUTING**

- ★ GPU USER GROUP KICKOFF MEETING FEBRUARY 23 | 3:00-4:00 PM PICSciE/RC STAFF
- **H** INTRODUCTION TO GPU COMPUTING FEBRUARY 26 | 4:30-6:00 PM

Jonathan Halverson, Research Software and Computing Training Lead

# FEBRUARY 22,26-27 | 4:30-6:00 PM

Matthew Cahn, Sr. Research Systems Analyst

#### PYTHON CODE CLEANUP: TACKLE THESE 10 COMMON ISSUES

#### MARCH 5 | 4:30-6:00 PM

Troy Comi, Sr. Research Software Engineer

#### PRINCETONPY: PYTHON USER GROUP MARCH AND APRIL MEETINGS | 12:00-1:00 PM



Join your fellow Python enthusiasts

https://researchcomputing.princeton.edu/learn/user-groups

# VISUALIZATION AND GEOGRAPHIC INFORMATION SYSTEMS

#### GEOGRAPHIC INFORMATION SYSTEMS (GIS) WORKSHOPS ON QGIS AND ARCGIS PRO FEBRUARY 5-MARCH 21

William Guthe, Sr. Geographical Information Systems Visualization Analyst Wangyal Shawa, Geographic Information Systems Librarian Register at https://library.princeton.edu/collections/pumagic/workshops

#### DATA VISUALIZATION IN PYTHON MARCH 21 | 4:30-6:00 PM

Michal Grzadkowski, Senior Research Software Engineer

#### VISUALIZATION WITH Visit APRIL 5 | 2:00-3:30 PM

Eliot Feibush, Visualization Scientist

#### KOKKOS: A PARALLEL, PORTABLE PROGRAMMING MODEL FOR CPUs AND GPUs FEBRUARY 27 | 4:30-6:00 PM

Rohit Kakodkar, Research Software Engineer II

#### INTRODUCTION TO ACCELERATED GENOMIC ANALYSIS

MARCH 12 | 3:00-4:00 PM Huiwen Ju, Solutions Architect, NVIDIA



#### HIGH-PERFORMANCE PYTHON FOR GPUs MARCH 19 | 4:30-6:00 PM

Henry Schreiner, Computational Physicist and Lecturer

# **WORKING WITH DATA**

INTRODUCTION TO DATA ANALYSIS USING R FEBRUARY 14 | 10:00 AM-12:00 PM Oscar Torres-Reyna, Manager, Statistical Services, Economics

► INTRODUCTION TO DATA ANALYSIS USING PYTHON FEBRUARY 21 | 10:00 AM-12:00 PM

Oscar Torres-Reyna, Manager, Statistical Services, Economics

#### WORKING WITH RESTRICTED DATASETS AT PRINCETON: SECURE RESEARCH WITH CITADEL FEBRUARY 27 | 11:00 AM-12:00 PM

Irene Kopaliani, Cloud Architect Ryan Fedon, Linux Systems Administrator

Workshop is part of Love Data Week

Workshop is appropriate for undergraduates and above

# **PRINCETON 2024 GPU HACKATHON**

GPU User Group Kickoff Meeting: February 23 | 3:00-4:00 PM Introduction to GPU Computing: February 26 | 4:30-6:00 PM Application Deadline: March 26 Hackathon: May 28, June 4, 12-14



Organized by Princeton Research Computing, a consortium of campus groups led by the Princeton Institute for Computational Science & Engineering (PICSciE) and Research Computing



Science & Engineering

Participating Departments: Center for Statistics & Machine Learning, Chemical and Biological Engineering, Computer Science, Economics, Geosciences, Institute for Research and Innovation in Software for High Energy Physics, Molecular Biology, Physics, Princeton Neuroscience Institute, Princeton Plasma Physics Laboratory, and PU Library