SPRING 2023
MINI-COURSES AND WORKSHOPS

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

Princeton Research Computing

RESEARCH COMPUTING FUNDAMENTALS

⭐ **OPTIONS FOR PROCESSING BIG DATA FOR THE SOCIAL SCIENCES AND HUMANITIES**
FEBRUARY 13 | 4:30-6:00 PM
Jonathan Halverson, Research Software & Computing Training Lead

⭐ **INTRODUCTION TO THE LINUX COMMAND LINE (PARTS 1 & 2)**
FEBRUARY 14 AND 16 | 4:30-6:00 PM
Galen Collier, Director of Researcher Engagement

COMMAND-LINE POWER TOOLS
FEBRUARY 20 | 1:30-3:00 PM
Axel Haenssen, Departmental Computing Systems Analyst

GETTING STARTED WITH THE RESEARCH COMPUTING CLUSTERS
FEBRUARY 21 | 4:30-6:00 PM
Anvitha Sudhakar, Graduate Student

REMOVING THE TEDIUM FROM YOUR RESEARCH WORKFLOW
FEBRUARY 23 | 4:30-6:00 PM
Jonathan Halverson, Research Software & Computing Training Lead

MACHINE LEARNING

◆ **FUNDAMENTALS OF DEEP LEARNING WITH MULTI-GPUs (PARTS 1 & 2)**
MARCH 15 AND 16 | 1:00-5:00 PM
Srivathsan Koundinyan, NVIDIA

⭐ **GETTING STARTED WITH MACHINE LEARNING IN PYTHON**
MARCH 24 | 4:30-6:00 PM
Christina Peters, Postdoctoral Researcher, University of Delaware

GRAPH NEURAL NETWORKS FOR YOUR RESEARCH
MARCH 27 | 4:30-6:00 PM
Gage DeZoort, Graduate Student

DATA ANALYSIS, DATA MANAGEMENT AND CLOUD COMPUTING

❤️⭐ **INTRODUCTION TO DATA ANALYSIS USING R**
FEBRUARY 15 | 10:00 AM-12:00 PM
Oscar Torres-Reyna, Manager, Statistical Services, Economics

❤️ **BIG DATA ANALYTICS AND MACHINE LEARNING WITH SPARK**
FEBRUARY 15 | 4:30-6:00 PM
Jonathan Halverson, Research Software & Computing Training Lead

⭐ **INTRODUCTION TO DATA ANALYSIS USING PYTHON**
FEBRUARY 22 | 10:00 AM-12:00 PM
Oscar Torres-Reyna, Manager, Statistical Services, Economics

MICROSOFT AZURE CLOUD TRAINING
APRIL 4 | 9:00 AM-12:00 PM
9:00-9:20 Building Intelligent Solutions in the Cloud
9:20-10:40 Data Science and Machine Learning on Azure
10:50-12:10 Data Science with GitHub Codespaces
Jasmine Greenaway, Senior Cloud Advocate, Microsoft
Members of the Microsoft Cloud Advocacy Team

KEEPING THE CLUSTERS CLEAN
APRIL 12 | 11:00 AM-12:30 PM
Rishi Joshi, Research Data Management Storage Engineer

GEOGRAPHIC INFORMATION SYSTEMS (GIS) WORKSHOPS ON QGIS AND ARCGIS PRO
FEBRUARY 6-MARCH 8
William Guthe, Senior Geographical Information Systems Visualization Analyst
Wangyal Shawa, Geographic Information Systems Librarian
Register at https://library.princeton.edu/collections/pumagic/workshops

PYTHON PROGRAMMING AND PERFORMANCE OPTIMIZATION

HIGH-PERFORMANCE PYTHON FOR CPUs
MARCH 1 | 4:30-6:00 PM
Henry Schreiner, Computational Physicist/Research Software Engineer

HIGH-PERFORMANCE PYTHON FOR GPUs
MARCH 8 | 4:30-6:00 PM
Henry Schreiner, Computational Physicist/Research Software Engineer

⭐ **INTRODUCTION TO PROGRAMMING USING PYTHON (PARTS 1, 2 & 3)**
MARCH 21, 22 AND 23 | 4:30-6:00 PM
Matthew Cahn, Systems Administrator

⭐ **INTRODUCTION TO NUMERICAL COMPUTING IN PYTHON WITH NUMPY**
MARCH 28 | 4:30-6:00 PM
Vineet Bansal, Senior Research Software Engineer

VISUALIZATION

◆ **SCIENTIFIC VISUALIZATION WITH VisIt**
MARCH 21 | 2:00-3:30 PM
Eliot Feibush, Visualization Scientist

⭐◆ **DATA VISUALIZATION IN PYTHON**
APRIL 6 | 4:30-6:00 PM
Michal Grzadkowski, Senior Research Software Engineer

GPU PROGRAMMING

N-WAYS TO GPU PROGRAMMING (PARTS 1 & 2)
MARCH 9 AND 10 | 1:00-5:00 PM
Robert Searles, NVIDIA

KOKKOS: A PARALLEL, PORTABLE PROGRAMMING MODEL FOR CPUs AND GPUs
MARCH 20 | 4:30-6:00 PM
Rohit Kakodkar, Research Software Engineer II

NATURAL LANGUAGE PROCESSING

⭐✳️ **HOW DOES ChatGPT WORK? AN OVERVIEW OF LARGE LANGUAGE MODELS**
FEBRUARY 20 | 4:30-6:00 PM
Ameet Deshpande, Graduate Student
Alexander Wettig, Graduate Student

⭐✳️ **spaCy: A PYTHON LIBRARY FOR NATURAL LANGUAGE PROCESSING**
APRIL 4 | 4:30-6:00 PM
Peter Baumgartner and Ákos Kádár, Explosion.ai

SOFTWARE DEVELOPMENT WORKFLOWS

⭐ **LET'S COLLABORATE! SOFTWARE DEVELOPMENT USING THE GITHUB WEB INTERFACE**
FEBRUARY 28 | 4:30-6:00 PM
Kilian Lieret, Postdoctoral Research Associate

CONTINUOUS INTEGRATION AND AUTOMATED SOFTWARE TESTING
MARCH 10 | 10:30AM-12:00 PM
David Luet, Associate Director of Research Software Engineering

Join your fellow researchers for a social hour
MACHINE LEARNING AND PIZZA
MARCH 2 | 12:00-1:00PM

❤️ Workshop is part of Love Data Week

⭐ Workshop is appropriate for undergraduates and above

✳️ Workshop involves natural language processing

◆ Workshop involves image data

PRINCETON 2023 GPU HACKATHON

Hackathon Information Session: February 22 | 4:00-5:30PM
N-Ways to GPU Programming: March 9 & 10 | 1:00-5:00PM
Application Deadline: April 4
Hackathon: June 7, 14, 21-23

PICSciE
Princeton Institute for Computational Science & Engineering