

## Textile Summer 2022 Cohort Call for Applications



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**Program Name:** TEXTILE: Tutorials for EXperimentalist Interactive LEarning

**Brief Program Description:** “A summer series in data science and brain cell analysis to introduce students to cutting edge research from real scientific methodologies taught by the scientists that designed or use them in their everyday lives”

**Program Details:** Analyze neuroscience images of brain cells with data science and image processing using real images and data from the Nance Lab – the Disease Directed Engineering lab - in the Chemical Engineering department at the University of Washington. Over a series of 10-weeks, learn Python, data management, experimental design, and image processing alongside observing wet-lab techniques such as brain slicing and microscopy from videos of real procedures in the lab. All modules and lessons are taught by current graduate students from the Nance Lab.

**Learning Outcomes:** At the completion of the program, participants will be able to

1. Identify different brain cells types and their role in normal brain function and disease
2. Recognize the use of different experimental techniques and models used to create fluorescent images
3. Identify the role chemical engineers play in data science, neuroscience, and nanoengineering
4. Develop an understanding of the research process
5. Use Python, Jupyter Lab, and GitHub to write and execute basic code
6. Demonstrate knowledge about the potential of machine learning in biological sciences
7. Demonstrate knowledge of the process to prepare for and apply to graduate school

**Dates:** June 20<sup>th</sup> – August 19<sup>th</sup>. Monday and Wednesday from 4 – 5:30 pm PST with open, optional office hours Tuesday and Thursday.

**Location:** Online

**Who Should Apply:** We encourage individuals who are currently in high school or pursuing an associates or bachelor's degree and are interested in learning about data science applied to neuroscience. No prior research, coding, data science or engineering experience is necessary. We especially encourage individuals to apply who are looking for a first experience. Additionally, GPA is not considered in our decisions and therefore is optional to include in any of the requested application materials.

**How to Apply:** Answer a few questions and submit your material through this [Google Form \(https://forms.gle/rqw8PCfKN7Cw3iyb8\)](https://forms.gle/rqw8PCfKN7Cw3iyb8)

**What Application Materials Will be Required:**

1. A one-page resumé (\*GPA is not considered in our decision process and is therefore optional)
2. A one paragraph statement of interest (250 words max): Why do you want to be a part of the 2022 TEXTILE cohort?
3. One paragraph answer (250 words max): How will you use skills gained from the program in your future academic life/career?

**Deadlines and Important Dates:**

\*We will be accepting a cohort of 30 students

Call for Applications Opens: May 4th, 2022

Applications Due: May 18, 2022 @ Midnight PST

Application Decisions Sent out: May 23, 2022

Decision Acceptance Due: May 27, 2022

First Day of Instruction: June 20, 2022

For any questions, please email Hawley Helmbrecht at [hhelmbre@uw.edu](mailto:hhelmbre@uw.edu)