Kennesaw State University Hackathon 2017

HPCC Systems sponsored this event as part of our academic program. It was hosted by the College of Computing and Software Engineering at KSU. For more information about how this event went, read our blog post: Fly on the wall - Our first Hackathon.

Date of the event	October 5th-8th 2017
Location	Marietta Campus, J/Atrium Building
Cost	Free
Eligibility	This event is open to all KSU CCSE students (ACS, BASIT, IT, CS, SWE, and CGDD) who have passed their first few programming courses. Graduate students who have exempted all transitional courses or have passed at least three 5000 transition courses are also eligible.
HPCC Systems Hackathon Team	**Machine Learning for Big Data Analytics on HPCC Systems** Are you interested in how analytics can identify trends which help businesses from a wide range of markets improve their decision making? Join our team and learn how to use the open source HPCC Systems platform and ECL-ML machine learning libraries, to build predictive models in the fields of insurance, health care, finance, security and other vertical markets.
Challenge	**Simulated Vehicle Traffic Monitoring** Driver behavior can encompass an individual's driving behavior and external factors such as the drive path, volume of traffic, traffic encountered, number of trips, where the streets are and the low /peak activity time and much more. We are providing some simulated data and would like you to establish whether this data reflects the patterns of driver behavior that we would expect to see in the real world. Meaningful data mining requires in the first instance knowledge about the shape of the data. Once this has been established, it is then possible to identify features which allow you to infer certain conclusions from the data. While we will provide some instructions about the sorts of conclusions we would expect you to discover, the main purpose of the challenge is for you to examine the data for yourself, extrapolate from that data and impress us with your own innovative thought processes and conclusions. The project goal will be achieved using the HPCC Systems platform by importing, translating and aggregating the data points in conjunction with utilizing the HPCC Systems Machine Learning Library, which provides the tools you need to build learning models from the collected data points. Although we will be looking at your final code and results, we are particularly interested in your methodology and whether your conjectures prove to be true or false. The goal will be around building models to address the challenge of the coming traffic revolution due to the introduction of autonomous vehicles. Watch Flavio Villanustre talk about this challenge.
Data Source	http://kolntrace.project.citi-lab.fr

General Instructions	1. Please follow all the guidelines specified by the data provider. 2. Provide a brief design/tech document describing the proposed solution (2-3 pages max). 3. Provide the bio of all participants and their roles on the project. 4. Use the HPCC Systems platform for executing the solution.
Rating Criteria	1. Innovation involved 2. Understanding of Big Data patterns and its application to HPCC Systems. 3. Team work and execution 4. Presentation quality
Mentors available during the Hackathon	The following mentors will be on site for the duration of the event: Dan Camper, Arjuna Chala and Richard Taylor. The following mentors will be available to give assistance remotely: John Holt and Roger Dev. **More information about our mentors and how to contact them**
Slack Channel	https://ksuccsehackathon.slack.com/

What can I do to prepare?

We have many resources available for you to use to familiarise yourself with our technology and how to use it. If you are new to us, then take some time to find out about HPCC Systems and what we do. Find out how HPCC Systems works, what ECL is and take a look at what goes on in our community.

- Watch a quick overview video about HPCC Systems
- Download the HPCC Systems VM. Select the operating systems you are using first and then check the VM download. Follow the installation guide instructions.
- You can use your preferred editor to write queries but we do have our own, ECL IDE which you can download. On the download page, select **Gold** and under **Operating System**, select **Windows**. Download both the ECL IDE and Client Tools.
- Once you're up and running, try out a few examples from the installation guide and tutorials.
- Learn some ECL. This is the language used to write queries. It's easy to use, try it for yourself. Read the documentation or take a training course.
- Take a look at some video tutorials
- Take a look at our Machine Learning Documentation and Sources.

I have questions, who do I ask?

- Questions about HPCC Systems and our team project? Email Trish McCall.
- Learn more about our academic program.