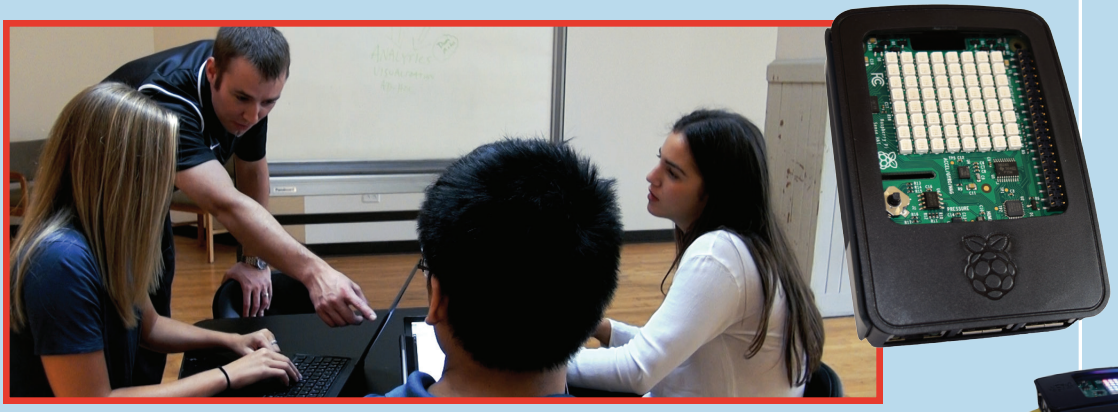
# WE ARE THE **IoT ANALYTICS** TRAINING EXPERTS

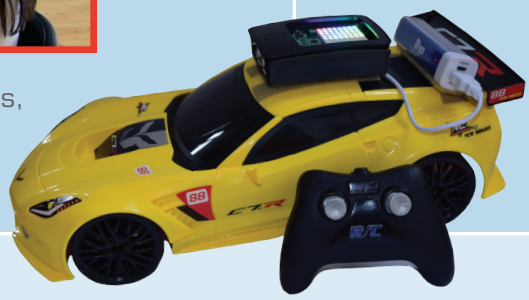
## ACCELERATE YOUR CAREER LEARNING ANALYTICS USING THE INTERNET OF THINGS

IoT Analytics extracts important information from the vast amount of data generated by sensors and smart devices. IoT Analytics targets the unmet demand for these skills in every industry vertical. Our team of experienced instructors will help you build IoT capabilities from sensor to Analytics using the latest devices and technologies available. LHP's one-week IoT Analytics training course takes you from embedded sensor configuration, developing custom visualizations and analytics, to performing predictive analytics on the telematics data you will produce while leveraging the cloud.

**THE CLASS IS CENTERED AROUND GATHERING TELEMETRY DATA FROM HEAT RACING OF R/C CARS WITH THE RASPBERRY PI DEVICE ATTACHED. THE RAW TELEMETRY DATA AND RACE RESULTS WILL BE UTILIZED THROUGHOUT THE WEEK.**



The Internet of Things (IoT) is the network of physical devices, vehicles, buildings, and items embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data.



ALL OF OUR **IoTA STUDENTS** WILL RECEIVE...

### ...HANDS-ONS EXPERIENCE USING...

- IoT OPERATING SYSTEM
- IoT HUBS
- CLOUD STORAGE
- CLOUD ANALYTICS
- MACHINE LEARNING
- VISUALIZATION TOOLS

### ...THEIR OWN RASPBERRY PI 3 MODEL B...

- SINGLE BOARD COMPUTER
- SENSE HAT BY ASTROPI
- MICRO USB POWER SUPPLY
- OFFICIAL CASE
- 16GB MICROSD CARD WITH SD ADAPTOR
- LHP PORTABLE POWER BRICK

LHPU IS THE ONLY PLACE YOU CAN EARN AN **INTERNET OF THINGS ANALYTICS TRAINING CERTIFICATE OF COMPETENCY** FROM SAE INTERNATIONAL

Lhpu training solutions® *control your future.*

**PAUL E. WRIGHT**
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# CURRICULUM FOR
# INTERNET OF THINGS ANALYTICS

## IOT/ANALYTICS OVERVIEW

## SENSOR COMPONENTS OVERVIEW
Raspberry Pi 3 Model B
Astro Pi Sense Hat
Windows 10 IoT Core
Other Sensors

## AZURE COMPONENTS OVERVIEW
Azure IoT Hub
Azure Storage
Azure Stream Analytics
Azure Machine Learning Studio

## SENSOR CONFIGURATION (WINDOWS 10 IOT CORE & C#) INSTRUCTIONS
Virtual Machine Login
IoT Firmware
Register Device
Integrated Development Environment (Visual Studio)
Set Startup Application
LHPWINDOWS10IOT Code

## AZURE CONFIGURATION
Azure Portal
Azure IoT Hub
Azure Storage
Azure Storage Explorer
Azure Stream Analytics
- Creation
- Add Inputs
- Add Outputs
- Write Query
- Start

## DATA MODELING
Schemas
Power BI
- Build and Manage a Model
- Visualize Data
- Example Dashboards from LHP Intern's IoT Analytics Training
- Example Dashboards from Internal Data at LHP Data Analytics
- Example Data Models from Internal Data at LHP Data Analytics

Excel Reporting
- Publish Your Power BI Data Model
- Go to Power BI Service
- Visualize Data in Excel

## MACHINE LEARNING
Azure Machine Learning Cheat Sheets
Azure Machine Learning Experiments
- Navigating Azure Machine Learning Studio
- Import Data
- Data Transformation
- Connect the Modules
- Prepare Training and Test Data
- Initialize a Machine Learning Algorithm
- Train a Machine Learning Algorithm
- Score a Trained Model
- Evaluate Model Results
- Run your Model
- Analyze Results

Azure Machine Learning Web Services
- Set Up Web Service
- Modify Predictive Experiment
- Deploy Web Service
- Test the Web Service Endpoint

## SENSOR CONFIGURATION OPTIONAL INSTRUCTIONS
Linux Operating System
Register Device
Integrated Development Environment (Python 3 (IDLE))
Set Startup Application
LHPPYTHONIOT Code

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