

## 4-week Big Data Analytics Summer Experience in USA 2020

### 1. Objectives

The main objectives of the programme are to enhance students' global perspective in technology as well as intercultural difference between Hong Kong and the USA. During the 3-week Summer Experience on Big Data Analytics and the 7-day Research Attachment, students will gain extensive knowledge on Big Data Analytics through an intensive course comprising lectures, hands-on exercises and industrial visits. Students will learn practical skills and discover the relevance of data science in real life applications through practicing with Hadoop, MapReduce, Apache Spark, and other open-source software and resources. By participating in academic-related summer activities, students will have a chance to interact with students, scholars and professionals from different academic and cultural backgrounds, and appreciate different approaches to learning as well as increase their cultural awareness.

### 2. Eligibility

Students who have attained CGPA of 2.5 or above are eligible for the programme. A selection process will be in place. Shortlisted applicants will be invited for an interview.

### 3. Duration of the Programme

The programme will be held from 28 June 2020 (Sunday) – 26 July 2020 (Sunday) (*travel time not included*).

### 4. Programme Structure

#### **Part I: 1-week research attachment**

Date: 28 June 2020 (Sunday) – 4 July 2020 (Saturday)

Students will gain research experience by having exchanges with local researchers and academic faculty on selected research projects and attending seminars for a week before the summer experience.

#### **Part II: 3-week Big Data Analytics Summer Experience**

Date: 5 July 2020 (Sunday) – 26 July 2020 (Sunday)

The summer experience comprises the following components.

- Classroom learning and hand-on exercises. Topics will cover
  - Introduction to Big Data and Big Data technologies

- Introduction to Data Science
- Hadoop, an open-source software framework supporting data-intensive distributed Applications
- MapReduce, a programming model for big data processing
- Apache Spark, a fast and general engine for large-scale data processing
- Mining Big Data with Spark MLlib, scalable machine learning and data mining libraries
- Exploratory data analysis, clustering and summarization, recommender systems, predictive analytics
- Classification with deep learning
- Attendance of seminars by guest speakers. A series of seminars will be held to further enrich students' understanding of Big Data analytics.
- An industrial visit. A visit to a local IBM branch will be arranged to introduce applications of Big Data analytics in the real world environment.
- Social and Cultural Activities. Guided trips to nearby attractions, such as Mark Twain Boyhood Home & Museum, St. Louis Gateway Arch and Missouri State Capitol, to enhance students' understanding of the local culture and society.

## 5. **Assessment**

Students will work on a Big Data project under the supervision of instructors and tutors from the University of Missouri, USA. A certificate will be issued by the University of Missouri to each student upon completion of the programme. To keep track of students' progress and as part of quality assurance mechanism, participating students are requested to complete the following tasks:

- Submission of a final report
- Production of a 2-minute short video documenting the programme
- Submission of 5 photos in digital format (file size larger than 1 MB for each photo.)

*Notes: Submitted information including texts, images, audio/ video files may be used in websites with public access and in institutional activities like exhibitions and information sessions for promotional purposes by the Department of Computer Science and the University.*

Students may be invited to give a presentation on the programme to new students in the Student Orientation in August 2020.

## 6. Cost of the Programme and Financial Support

Direct student costs are estimated at HK\$45,428. It covers the tuition and lab fees, round-trip economy-class flights, administrative fees, housing in a campus residential hall, meals, medical insurance for travelers, transportation to/from the airport and paid social activities. The US visa application fee of HKD 1,280 is not counted as a direct student cost and will be fully borne by students.

	<b>Sub-total (HKD)</b>
Programme and accommodation fees (USD 4,450 x 7.8510)	\$34,937
Transportation fees (round-trip economy-class flights)	\$10,491
Estimated total direct costs:	<u>\$45,428</u>

The University will sponsor 60% of the programme cost and students are required to pay 40%. Student contribution is estimated at HK\$18,171 (not including the US visa application fee).

### ***Caution money***

Each participant is required to pay a caution money of HK\$5,000, which will be refunded on the condition that the student has fulfilled the undertakings in the preparation, planning, organizing and reporting process of the summer programme. It is mandatory for students to attend all the above-mentioned activities. Penalties including deduction of caution money may be imposed for unexcused absences from any pre-arranged activities.

## 7. Other Available Funding Resources

### ◆ **Scheme for Subsidy on Exchange (SSE)**

Established by the Education Bureau in 2015, the Scheme for Subsidy on Exchange (SSE) provides funding to students covered by the Comprehensive Social Security Assistance (CSSA) or means-tested grants/ loans from the HKSAR Government. For details, please refer to [https://www.cityu.edu.hk/geo/studentlan/oge\\_sse.htm](https://www.cityu.edu.hk/geo/studentlan/oge_sse.htm)

### ◆ **Reaching Out Award (ROA)**

Students selected for this programme are eligible to apply for the Reaching Out Award (ROA), under the HKSAR Government Scholarship Fund - Non-Academic Awards 2019-2020. The Department is expected to be allocated a small number of quota for ROA in 2019-2020. The value of the Award is HK\$10,000. An announcement will be made to all students via email. Students are required to submit applications in order to be considered for the Award. The results are expected to be known in late June 2020. Awardees will be notified of the result individually via email.

## **8. Visa Application**

Participating students are advised to enter the United States on a B-2 visa for this **non-credit bearing** programme. Students are responsible for obtaining and paying for the US visa and ensuring that their passports are valid for six months beyond their intended stay in the United States.

## **9. Travel Arrangements**

Students should purchase air tickets (economy class) by themselves and be responsible for their travel arrangements. Please note that only intercity transportation required by the programme for relevant learning activities will be subsidized by the University.

## **10. Insurance**

Throughout the programme period, all students are covered by the Group Personal Accident Insurance Policy of the University. Students who will depart from Hong Kong and return to Hong Kong will also be covered by the Group Travel Insurance Policy. For details of the coverage, please visit the website of CityU Finance Office at [https://www.cityu.edu.hk/fo/studentlan/htm/Stu\\_Insurance.htm](https://www.cityu.edu.hk/fo/studentlan/htm/Stu_Insurance.htm). In addition, the partner university will purchase Medical Insurance for Travelers for participants. If additional insurance coverage is needed, students may make the arrangements by themselves.

## **11. Feedback from past participants**

Feedback from past participants is available at the Departmental website at [http://www.cs.cityu.edu.hk/life/summer\\_experience.html](http://www.cs.cityu.edu.hk/life/summer_experience.html).