Campus Visit Day – Experience Computer Science
Tuesday, December 10, 2024
University of Regina

Below are brief descriptions about each of the six academic breakout session:

AI and Intelligent Agents (Dr. Malek Mouhoub & Dr. Shakil Khan)
AI, a fast-evolving scientific discipline, empowers machines to execute tasks that typically demand human-like intelligence. In this session, we introduce the area of AI with a keen emphasis on intelligent agents. The design of intelligent agents for real-world applications will take center stage, offering students a nuanced understanding of the relationship between AI and practical problem-solving. Students will work on hands-on motion planning activities using a robotic platform. The objective is to understand the importance of motion planning in intelligent agents and how sensors contribute to intelligent agent motion planning. The session will conclude with a reflection on the importance of intelligent agent motion planning and its potential applications.

Computer Networks (Dr. Nashid Shahriar & Dr. JingTao Yao)
Computers/mobile devices talk to each other over the internet via messages. However, the internet is not reliable and sometimes these messages get corrupted, delayed, or lost. There are certain bits of information we can add to messages and specific actions such as error correcting, acknowledging, and re-transmitting that can be taken in response to these events to make sure messages are sent reliably. All these make up a network protocol that we will explain and have you interactively experience via a network simulation activity.

Data Science (Dr. James McVittie & Dr. Affan Shoukat)
Data science is an area that combines ideas from computer science, mathematics, and statistics in order to understand features of real-world phenomena through sampled data. In this session, we will explore how probability forms the backbone of data science and how messy and missing data can be used to make inferential statements. Students will work on problems involving probability and chance as well making conclusions using a data set with missing observations.

Human-Computer Interaction (Dr. Sami Uddin & Dr. Daryl Hepting)
Human-Computer Interaction is a field that brings together various disciplines to focus on the design and effective use of computer technology to enhance the interaction between humans and computers. In this session, we will delve into the human factors that influence the design of interfaces and explore how they can contribute to different user experiences. By participating in various activities, students will gain a better understanding of the challenges and opportunities of designing interfaces that facilitate effective human-computer interactions.

Limits of Computing (Dr. Kamyar Khodamoradi)
In this session, students will engage with key concepts via a series of fun and occasionally challenging puzzles. The main takeaways will include: (1) How does a mathematician define a computer? (2) Are there problems that computers cannot solve? (3) Among the problems that can be solved, which are considered easy and which are deemed hard?

Programming Skills (Dr. Tim Oleskiw, Catherine Song, and Alex Clarke)
This session will focus on the Joy of Programming and the Fun of being a Programmer.   We will show you how university students learn and write programs. By using small examples, we will help you learn some basic skills of programming by thinking like a computer. Yes, you will learn how to write programs by playing games with us! Programming is a fun activity. Welcome to a joyful hour of game-playing and coding!