Department of COMPUTER SCIENCE
THE UNIVERSITY OF TEXAS AT DALLAS

invites you to attend

Spring Break Online Conference

(Series of Tech-Talks and Tutorials)

March 23-27, 2020

Flyer: bit.ly/utdcssb

Webex link: bit.ly/cssb-wx (Password: utdcs)

Monday, March 23

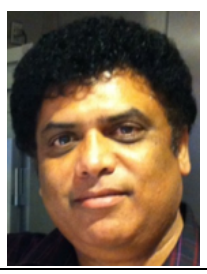
10 am - Moving from Machine Learning to Deep Learning Dr. Anurag Nagar, CS faculty, UT Dallas 	This talk will review the core concepts of machine learning, especially neural networks. We will then discuss how and when to use a deep architecture and some use cases of deep learning. The participants will be introduced to the challenges of deep learning architectures and some recent techniques to overcome them. Towards the end, there will be a hands-on lab that will demonstrate the power of modern tools such as TensorFlow and Keras. Anurag Nagar is a faculty member of the Computer Science department at UTD. He teaches advanced level courses in Machine Learning and Big Data technologies. He has a number of years' experience in the industry and has conducted many workshops for corporate and academic audiences.
2 pm - Machine Learning in Biomedical Applications Nikhil Pareek, Graduate Research Assistant at Texas Biomedical Device Center, UT Dallas 	With the advent of higher computational power and new learning algorithms, Machine Learning is finding its application in myriad domains but more so in Biomedical Engineering. Currently there are various fields of study including Neuro-robotics and Neuro-Imaging which have consistently shown promising results with the help of this new technology and in this talk we would be focusing more on learning Human Activity Recognition with the help of Inertial Measurement Units such as a Fitmi wearable device. The talk aims to gauge the interest of the audience from all backgrounds and starts with the most fundamental concepts in Machine Learning. Nikhil Pareek is a CS graduate student at UT Dallas. He is interested in the application of ML in the field of Neuro-Imaging and currently working at the Neurobiology of Memory Laboratory as a Research Assistant with Dr Christ McIntyre at the School of Behavior and Brain Sciences at UTDallas. Before coming to UTDallas, he worked as a Junior Research Fellow at the Indian Institute of Science, India and co-authored a publication in a peer-reviewed journal, Royal Society of Chemistry-Advances.

Tuesday, March 24

10 am - Dr. Karl Ho, UTD School of Economic, Political and Policy Sciences faculty	

	
12 noon - Practical UI Design John Cole, CS faculty, UT Dallas 	This talk will focus mainly on data entry applications, which seem simple but are not. You'll learn basic principles of screen design, organization, and data verification, among other things. Prof. John Cole had a long career in industry, including running a small software company, before joining UTD as a full-time faculty member in Fall 2012. His interests include UX design, embedded systems, and computer science education.
2 pm - Creative Coding with p5.js Saber Khan, Education Community Director at Processing Foundation & CS Teacher @ The Packer Collegiate Institute, Brooklyn, New York 	If you're curious about creative coding and want to learn or teach programming through fun, interactive projects that will empower your students to build innovative web applications, join our Introduction to p5.js workshop. This hands on workshop will provide you with the fundamentals of programming in Javascript with a graphics and sound library called p5.js. It is used by artists and educators alike. p5.js great for beginners and can take you far into advanced programming concepts. I'll teach you the basics of computing by building simple projects together like drawing apps and generative designs and introduce you to the p5.js curriculum written by the CS4ALL team at the NYC Department of Education. We'll also prepare you to go beyond the basics and share resources for more advanced projects like building games, creating music, working with API's and even artificial intelligence/machine learning so that you're prepared to continue learning beyond the summer. We'll be using online tools compatible with chromebooks, mac and windows machines. All coding can be done in a web editor that works in any browser. The curriculum is available on YouTube, and on a website. No other equipment purchase is needed. p5.js, a JavaScript library for creative coding - p5js.org web editor - editor.p5js.org

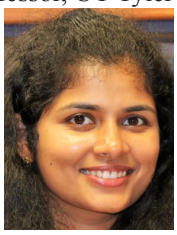
Wednesday, March 25

10 am - Easy Happy Fun Game Development with DragonRuby! Amir Rajan, Fractional CTO. Owner of @RubyMotion. Indie Game Dev: MIRTS, The Ensign, A Noble Circle, and #1 App: A Dark Room (BSCS'06) 	When Amir was a kid, his first introduction to programming was through building games using VB6. You may have a similar story of coding for the first time, making some form of digital interactive media. And like the story usually goes, we eventually have to grow up. We find that becoming successful with arts and technology is hard, so we end up applying our creativity to building enterprise software instead. Well, how about we let our hair down and reconnect with our inner child? Just get your laptop, open mind, and let's have some fun hacking on cross-platform games using Ruby! This is a kid-friendly/beginner-friendly session. Everyone that attends will get a free license to the game engine Amir will be using during the hands-on workshop: DragonRuby Game Toolkit (http://dragonruby.org). Amir is a hyper-polyglot with over fifteen years of industry experience. His expertise span multiple languages (C#, F#, JavaScript, Objective C, Clojure, C, Ruby) and multiple tech verticals (enterprise software development, compiler engineering, game development).
2 pm - Kamran Khan, CS faculty, UT Dallas 	

Thursday, March 26

9:30 am - Machine Learning in production Karthik Gandhi, Software Engineering Manager, Grab, Singapore 	We will touch upon 1. Fast experimentation and hypothesis testing 2. Reusable components, principles and tools 3. Decoupling engineering from data science 4. Flexible infrastructure and tools 5. Self learnable systems (bright future) Karthik leads critical marketplace engineering and ML infrastructure teams at Grab, Singapore. He moved from California to Singapore last year after working 10+ years for several companies including Microsoft and Uber.
2 pm - Digital Forensics & Data Recovery Dr. Neeraj Gupta, CS faculty, UT Dallas 	

Friday, March 27

10 am -	
2 pm - Internet of Medical Things(IoMT): Trends and Challenges Dr. Prabha Sundaravadivel Assistant Professor, UT Tyler 	The human body is a complex system organized at different levels such as cells, tissues and organs, which contribute to 11 important organ systems. The functional efficiency of this complex system is evaluated as health. Traditional healthcare is unable to accommodate everyone's needs due to the ever-increasing population and medical costs. With advancements in technology and medical research, traditional healthcare applications are shaping into smart healthcare solutions. Smart healthcare helps in continuously monitoring our body parameters, which helps in keeping people health-aware. It provides the ability for remote assistance, which helps in utilizing available resources to maximum potential. The backbone of any smart solution is the Internet of Things (IoT) which increases the computing capacity of the real-world components by using cloud-based solutions. The basic elements of these IoT-based smart solutions are called "Things" which are simple sensors or actuators, that have the capacity to wirelessly connect with each other and to the Internet. An Internet of Things-based framework for the healthcare industry is called the Internet of Medical Things (IoMT). This technology connects patients to their physicians and supports the transfer of medical data over the Internet. This talk will focus on the research involved in design perspectives of application-specific IoMT frameworks, and the challenges in deploying such frameworks. Dr. Prabha Sundaravadivel received her Ph.D. Degree in Computer Science and Engineering at the University of North Texas, Denton, Texas in 2018. Her research interests are focused on developing Application-specific architectures for Smart healthcare and Smart Cities, Affective computing for healthcare, Edge-Intelligent Embedded Systems for IoT Applications, Human-Computer Interaction, Reconfigurable Computing, Augmented Reality for Smart Healthcare, Robotics, and Machine Learning.