



IEEE Rochester Section

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January 2020 Newsletter

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Message from the Chair

Dear Friends and Colleagues,

I want to begin my inaugural "Message from the Chair" by thanking those that supported and encouraged me to take on this new role despite being the youngest ExCom member. My time as Section Secretary helped prepare me for this new role, but I have much to learn in the spotlight.

I would also like to thank the outgoing ExCom members, Sreeram Dhurjaty (Chair) and Bill Fowlkes (Treasurer), for their leadership and contributions to the Section during the past two years. Although you may not be on the ExCom, I hope you remain engaged with the Section and continue to share your experience and wisdom with the new ExCom members.

Congratulations to the returning ExCom members, Cristian Linte (Vice-Chair) and Paul Lee (Secretary), and new ExCom member Harish Gupta (Treasurer). I look forward to working with the new ExCom to achieve my goals as Chair. I hope to increase IEEE Rochester's engagement with our student branches, young professionals, and women engineers during my two-year term. Increasing engagement among these groups is the key to evolving IEEE Rochester Section to ensure a healthy future.

I look forward to getting to know more of the engineers in the Rochester area at future events.

Eric Brown

Deep Learning Seminar 2/4/19

Professor Guarav Sharma (Electrical and Computer Engineering, Computer Science, and Biostatistics and Computational Biology departments, and Goergen Institute, University of Rochester) is giving a seminar entitled "Leveraging Old Tricks in A New World: Efficient Generation of Labeled Data for Deep Learning" at 5:30 on the Rochester Institute of Technology campus. Dr. Sharma's abstract:

In the emerging world of artificial intelligence algorithms and analytics, curated and labeled data is often considered the "new oil." However, extracting this "oil" is often expensive and fraught with difficulties. Specifically, generation of labeled data can be labor intensive and tedious. Crowd sourcing can distribute the labor and mitigate the cost and tedium for some application scenarios. However, for other applications, such as medicine, the requirement of specialized knowledge and skills can make crowd sourcing unviable and generation of labeled data is therefore both expensive and limited, in volume and accuracy, by the availability of physicians' time. The problem is even more acute for tasks requiring sample level labeling of large, high-resolution spatio-temporal datasets, for example, for pixel-level labeling of images for medical image segmentation. In this talk, through case studies, we highlight examples where creative use of conventional machine learning, computer vision, and image processing techniques allows us to efficiently generate labeled data for new applications of deep learning. The examples particularly highlight that these conventional tools continue to be effective and useful and will therefore co-exist symbiotically with modern deep learning methodologies.

The UAV STRATUS (Systems and Technologies for Remote Sensing Applications Through Unmanned Aerial Systems) conference, sponsored by IEEE GRSS, will be held on May 18-20, 2020 at the University at Buffalo. The conference brings together academics, industry representatives, and domain specialists to share perspectives on this rapidly evolving field of a wide range of topics. It started in 2016, and has grown to three-day conference with a pre-conference field trip



The STRATUS 2020 Conference topics include: UAV Platform Hardware and Software, Sensors and 3D/Multi-view Imaging, Remote Sensing and Image Analysis Techniques, Integrated Environmental Monitoring, Analysis and Modeling, Applications, Algorithms, and Decision-making.

In addition, the topic of *GeoHazards and other Extreme Events* is the special focus of STRATUS 2020.

Dr. Peter Webley will give a keynote, discussing sensing systems developed in and for Alaska and the applications and missions to collect information on the dynamics of natural hazards and other extreme events. Dr. Webley is a Research Associate Professor of Remote Sensing at the Geophysical Institute, University of Alaska Fairbanks and is the Associate Director of Research at the Alaska Center for UAS Integration.

Abstracts (for the workshop track) and papers (for the conference proceedings track) are being accepted now.

For more information about this conference, please visit <http://stratus-conference.com/>.

Recent Events

GRSS had a guest speaker on Nov 13, 2019. Dr. Craig Coburn, head of the Department of Geography at the University of Lethbridge. He gave a talk entitled, "How you look at it matters: Investigations in hyperspectral bidirectional reflectance distribution function and the role of serendipity in research". Dr. Coburn addressed past research into the effects and impacts of spectral reflectance variability with respect to view and illumination angles. Research into the complex nature of a surface's spectral reflectance field has always been hampered by lack of available instruments to conduct the measurements – it has also been restricted due to larger and more pressing questions in the science. There were 32 attendees, four of them were IEEE members.

Our section held its Volunteer Appreciation event at NextCorps on December 11th.

IEEE Rochester Section Events

<u>Event</u>	<u>Vtools #</u>	<u>When</u>	<u>Where</u>
EX-COM Meeting		January 7 th , 11:50 – 13:00	China Buffet
Engineering Symposium		April 28 th , 2020	Rochester Riverside Convention Center
UAV STRATUS 2020 Conference	213432	May 18-20, 2020	University of Buffalo stratus-conference.com