Congratulations to the SRW 2015 CSE student winners

Nineteen students from the Sketch Recognition Lab, directed by CSE Associate Professor Dr. Tracy Anne Hammond, in the Department of Computer Science and Engineering received ten awards for their research comprised of a myriad of projects from digitizing sketch-based neuropsychology tests to putting an end to online child bullying. The Student Research Week 2015 (http://srw.tamu.edu/)* awards and closing ceremony were held on March 20 in Texas A&M University's Memorial Student Center. More than 175 people and Miss Rev (Reveille VIII) were in attendance for the awards and refreshments. SRW is an opportunity for students to present their research and for the community to learn about the research going on at Texas A&M.

Jaideep Ray, working on his master's degree in computer science in the Sketch Recognition Lab under Hammond, won first place in the graduate poster competition (Subject Area: Math, Statistics, Computer Science) with "Approximate Sketch Matching and Retrieval." This project focuses on algorithmic recognition of sketches into related domains and then approximately matches a query sketch to its nearest neighbors. Ray plans to complete his master's thesis on this project next year.

Anurag Garg, Seth Polsley, and Ray took second place in the graduate poster competition (Subject Area: Math, Statistics, Computer Science) for their project on "Optimizing Corner Finders." Garg and Polsley are studying for master's degrees in computer engineering in the Sketch Recognition Lab. The project grew out of the team's final project from Hammond's Sketch Recognition class CSCE 624. The result of this research is the significant improvement in run-time of the whole Corner Combiner algorithm as the number of strokes examined increases.

Second place in the graduate poster competition (Subject Area: Medicine, Biomedical, Neuroscience) for "Modeling Radiologists' Visual Search Patterns during Mammographic Screening" went to Folami Alamudun, who is working on his doctoral degree in computer science under Hammond. This is the third award that Alamudun has won this year on his dissertation topic, the others awards occurring at the Oak Ridge graduate poster competition and TAMU CSE IAP competition. In Alamudun's project, modeling analyzes the complexity of radiologists' ocular fixations during mammographic screening in clinical settings using a head-mounted eye-tracking device. The gaze data are then analyzed to identify common properties across radiologists, which can be used to develop personalized aids for decision support and diagnostic tools, and for training purposes.

David Turner, studying for his master's degree in computer science in the Sketch Recognition Lab, won second place in the graduate oral competition (Subject Area: Psychology, Sociology, Anthropology, Business, Education, Political Science, Economics) for "CourseSketch." The CourseSketch mission is to deliver an intuitive, as well as interactive, learning experience that simplifies instructor and student interactions. It allows the submission of handwritten homework online and allows unique course management

functionality. Turner is the graduate mentor for the undergraduate AggieChallenge team of the same name, where he and Hammond lead 15 students to develop state of the art learning software.

Raniero Lara-Garduno, a Sketch Recognition Lab doctoral student in computer engineering, placed second in the graduate oral competition (Subject Area: Math, Statistics, Computer Science) with his presentation of "SmartStrokes: Evaluating Sketches from Neuropsychological Tests." SmartStrokes is a digital patient testing suite that aims to digitize sketch-based neuropsychology tests administered to Alzheimer's, stroke, and Parkinson's patients in addition to those suffering from severe concussions. Lara-Graduno took first place at Tapia's graduate competition earlier this year. The project grew out of one of Hammond's prior capstone projects, with originally Laramie Goode, Andy Hurley, Thomas Klingshirn, Nick Melnyk, and Josh Rispoli. The project is advised by Hammond and Dr. Nancy Leslie, a clinical neuropsychologist at the Texas Brain and Spine Institute.

Abram Gutierrez, a senior dual majoring in mechanical engineering and computer science taking CSCE 491 research credit with Hammond, won the Sigma Xi Interdisciplinary Award and took first place in the undergraduate poster competition (Subject Area: Math, Statistics, Computer Science) for "gRec: A Gesture Recognition Interface for CourseSketch." gRec uses Microsoft's Kinect v2 sensor to scan the user's gestures in real time then compares the gestures to predefined gesture interaction cues which map to standard presentation commands. It aims to create a more natural presentation environment that is less constrained by the hardware and presentation setup.

Three projects from Hammond's CSCE 482 Senior Capstone Design also won awards:

Computer science seniors Hayden Wood, Harish Vangavolu, and Joseph Newman took first place in the undergraduate oral competition (Subject Area: Math, Statistics, Computer Science) with their senior capstone design project with Hammond. Their project, "Frontier," proposes a browser extension that simplifies visualization, traversal, and analysis of the webgraph for a browsing session. It can be used to significantly enhance the browsing experience.

Matt Bowersox, Waylon Brown, and Chandler Sauers, all seniors majoring in computer science, captured first place in the undergraduate oral competition (Subject Area: Health, Nutrition, Kinesiology, Physiology) for their senior design capstone project with Hammond. Their project, "Shoot Responsibly," creates an environment in which users can develop safe habits when dealing with fire arms. The end goal of this project is to ensure that the user is learning safe gun control habits.

Six CSE computer science seniors Harry Zhang, Joshua Privett, Frank Tian, Thomas Mulholland, Matthew Carrasco, and Eduardo Cestafe, also in Hammond's senior design capstone, garnered second place in the undergraduate poster competition (Subject Area: History, Literature, Fine Arts, Communication, Languages, Philosophy) with "KidGab: A Social Media Tutorial." This project is a follow-up to research developed by Sketch Recognition Lab doctoral student Stephanie Valentine (http://tamusrl.blogspot.com/2014/11/stephanie-valentine-kidgab-with-girl.html) to counter online child bullying. The tutorial develops a message filter that has the administrator manually approve every single post, and it uses game design principles to improve the current reward system.

*   SRW celebrated its 18th annual research extravaganza with oral and poster presentations by Texas A&M graduate and undergraduate students. This year's theme was *Connecting Ideas*.

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Photo left: (l-r with Miss Rev) Seth Spolsey, Abram Gutierrez, Harish Vangavolu, Jaideep Ray
Photo right: SRW 2015 Poster Exhibit

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