

## RORY A. LEWIS

Associate Professor, University of Colorado at Colorado Springs  
Engineering Building Room 188, 1420 Austin Bluffs Parkway  
Colorado Springs CO 809933-7150, 719.255.3149  
[rlewis5@uccs.edu](mailto:rlewis5@uccs.edu) [rorylewis.com](http://rorylewis.com)

### A. PROFESSIONAL PREPARATION

<u>College/University</u>	<u>Major</u>	<u>Degree</u>	<u>Year</u>
Syracuse University	Computer & Electrical Engineering	B.S.	1993
Syracuse University College of Law	Law	J.D.	1996
University North Carolina at Charlotte	Computer Science	Ph.D.	2008

### B. ACADEMIC/PROFESSIONAL APPOINTMENTS

2008 - Present	Assistant Professor, University of Colorado at Colorado Springs, CO.
2007 - 2008	Lecturer, Catawba College, NC.
2006 - 2008	Lecturer, University of North Carolina at Charlotte, Business School, NC.
2003 - 2008	Lecturer, University of North Carolina at Charlotte, Engineering School, NC.

### C. PEER-REVIEW PUBLICATIONS

45. R. Lewis, C. Mello, Y. Zhuang, M. K. -C. Yeh, Y. Yan, D. Gopstein. "Rough Sets: Visually Discerning Neurological Functionality During Thought Processes." *The 24th Int. Symposium on Methodologies for Intelligent Systems*, ([ISMIS '18](#)), 29<sup>th</sup> – 31<sup>st</sup> October, St. Raphael, Limassol, 2018.
44. R. Lewis, "ISR-Brain Machine Intelligence for Unmanned Aircraft Systems" *2<sup>nd</sup> International Symposium of Intelligent Unmanned Systems on Artificial Intelligence*, ([SIUSAI '18](#)), 27<sup>th</sup> – 29<sup>th</sup> August, Las Vegas, NV, 2018.
43. R. Lewis, "ISR-3D Terrain: Artificial Intelligence Multidimensional Mapping for Unmanned Aircraft Systems" *2<sup>nd</sup> International Symposium of Intelligent Unmanned Systems on Artificial Intelligence*, ([SIUSAI '18](#)), 27<sup>th</sup> – 29<sup>th</sup> August, Las Vegas, NV, 2018.
42. R. Lewis, "Artificial Intelligence for Neuro ER: Give him Blood, or Oxygen, or Spinal Tap/Medication or a Craniotomy?" *The 2018 Military Health System Research Symposium (MHSRS)*. 20<sup>th</sup> – 23<sup>rd</sup> August, Kissimmee, FL, 2018.
41. R. Lewis, M. Bihn. "Cerebral Vasospasm Decision Support System for Neurosurgeons." *The 2017 International Conference on Computational Science and Computational Intelligence (CSCI '17)*: December 14-16, Las Vegas, Nevada, 2017.
40. R. Lewis, M. Bihn. "Artificial Intelligent Agent for Autonomous Prediction and Dynamic Feedback for High Performance Athletes." *The 2017 International Conference on Computational Science and Computational Intelligence (CSCI '17)*: December 14-16, Las Vegas, Nevada, 2017.
39. R. Lewis, C. Mello, Y. Zhuang, M. K. -C. Yeh, Y. Yan, D. Gopstein. "Visually Discerning Neurological Functionality During Intense Versus Trivial Thought Processes. *The 13<sup>th</sup> International Symposium on Medical Information Processing and Analysis (SIPAIM '17)*: (poster), October 5 - 7, San Andres Island - Colombia, 2017.
38. K. Kamalaldin, R. Lewis, C. Mello, D. R. Cserpan, S. Zoltan, P. Erdi, Z. Borhegyi. "Classifying & Localizing Epileptic Brain States Using Structural Features of Neuronal Sugihara Causation Networks. In *Advanced Computational Neuroscience Network (ACNN '16) Midwest Workshop on Big Neuroscience Data, Tools, Protocols & Services*: Sept. 20-21, University of Michigan, Ann Arbor, Michigan, 2016.
37. A. Kennedy, R. Lewis. "Optimization of Neural Network Architecture for Biomechanic Classification Tasks with Electromyogram Inputs." *The 2<sup>nd</sup> International Conference on Advances in Bioscience and Bioengineering (ICABB '16)*: October 26-2, San Francisco, CA, 2016.
36. A. Kennedy, R. Lewis. "Optimization of Neural Network Architecture for Biomechanic Classification Tasks with Electromyogram Inputs." *International Journal of Artificial Intelligence and Applications (IJAIA '16)*, Vol. 7, No. 5, September 2016.
35. R. Lewis, M. Bihn and C. Mello. "Machine Intelligence: The Neuroscience of Chordal Semantics and its Association with Emotion Constructs and Social Demographics." *International Symposium on Methodologies for Intelligent Systems* Springer International Publishing ([ISMIS '15](#)): (pp. 290-299), October 21-23, Lyon, France, 2015.

34. R. Lewis, R. Broberg. "Seizure and Pathologic Oscillatory Detection by Entropy of the Discrete Amplitude Distribution." *The 7<sup>th</sup> International Conference on Similarity Search and Applications (SISAP '14)*: (pp 247 – 252), October 29 -3, Los Cabos, Mexico, 2014.
33. C. Mello, R. Lewis, A. Brooks-Kayal, J. Carlsen, H. Grabenstatter, and A. M. White. "Semi-Autonomous Neuroclustering: Supervised Learning for the Neurosurgery Intensive Care Unit Using Single-Layer Perceptron Classifiers." *The International Conference on Brain Informatics and Health (BIH '14)*: August 11 -14, Warsaw, Poland, 2014.
32. R. Lewis. "Neuroscience Rough Set for Credit Risk Analysis of Branchless Banking Subprime Loans." *The 21<sup>st</sup> International Symposium on Methodologies for Intelligent Systems (ISMIS '14)*: (pp. 536 – 541), June 25 – 27, Roskilde, Denmark, 2014.
31. R. Lewis, J. Ellenberger, C. Williams and A. M. White. "Investigation into the Efficacy of Generating Synthetic Pathological Oscillations for Domain Adaptation." In *Proc. SPIE 8922, IX International Seminar on Medical Information Processing and Analysis International Society for Optics and Photonics (SPIE '13)*: (pp. 89220E-89220E), November 11-14, México City, Mexico, 2013.
30. R. Lewis, C. Mello, J. Ellenberger, & A. M. White." Domain Adaptation for Pathologic Oscillations." In *Rough Sets, Fuzzy Sets, Data Mining, and Granular Computing: 14<sup>th</sup> International Conference, (RSFDGrC '13)*: (pp. 347-379), October 11-14, Halifax, NS, Canada, 2013.
29. R. Lewis, C. Mello, A. Brooks-Kayal, J. Carlsen, H. Grabenstatter, and A. M. White. "Autonomous neuro Clustering of Pathologic Oscillations Using Discretized Centroids." In *(MDA '13)*: (pp. 12-23). 2013.
28. R. Lewis, C. Mello, A. Brooks-Kayal, J. Carlsen, H. Grabenstatter, and A. M. White. "Semi-Autonomous Neuroclustering: Using Centroidal Displacement Analysis." *9<sup>th</sup> International Conference on Machine Learning & Data Mining (MLDM '13)*: July 15-20, New York City, NY, 2013
27. J. Carlsen, H. Grabenstatter, R. Lewis, C. A. Mello, A. Brooks-Kayal, and A. M. White. "Identification of Seizures in Prolonged Video-EEG Recordings." 66<sup>th</sup> American Epilepsy Society Annual Meeting, *(AES '12)*: (poster), November 30 -December 4, San Diego, CA, 2012.
26. R. Lewis, C. Mello, and A. M. White. "Tracking Epileptogenesis Progressions with Layered Fuzzy K-Means and K-Medoid Clustering." In *Proceedings of the International Conference on Computational Science, (ICCS '12)*: (Vol. 9, pp 432-438), June 4 - 6, Omaha, Nebraska, 2012.
25. R. Lewis and A. Waziri. "minedICE<sup>TM</sup>: A Knowledge Discovery Platform For Neurophysiological Artificial Intelligence." In *Proceedings of the 19<sup>th</sup> International Symposium on Methodologies for Intelligent Systems* Eds. Kryszkiewicz M., Rybinski H., Skowron A., Raś Z.W., Foundations of Intelligent Sys. Springer *(ISMIS '11)*: (Vol. 6804, pp.575–580), , June 29-30, 2011.
24. R. Lewis, B. Parks, D. Shmueli, and A. M. White. "Detecting Epileptogenesis in Power Variant Domains." *Journal of Control and Cybernetics (JC&C)*: Eds. M. Klopotek, A. Ioffe, K. Malanowski and F. Troeltzsch, (Vol 40, pp. 293–314), 2011.
23. R. Lewis and A. M. White. "Multimodal Spectral Analysis and Discrete Finite Automata for Detecting Seizures." *Intelligent Agent Technology, in Proc. of the IEEE/WIC/ACM International Joint Conf. on Web Intelligence & Intelligent Agent Technology (WI-IAT '10)*: (Vol 2. Pp. 445 – 448), August 31 - Sept 3, Toronto, Canada, 2010.
22. R. Lewis, B. Parks, and A. M. White. Determination of Epileptic Seizure Onset From EEG Data Using Spectral Analysis and Discrete Finite Automata. In *Proceedings of the 2010 IEEE International Conference on Granular Computing (GrC '10)*, (pp. 277-282), August 14–16, San Jose, CA, 2010.
21. R. Lewis, B. Parks, D. Shmueli, and A. M. White. "Deterministic Finite Automata in the Detection of Epileptogenesis in a Noisy Domain." *Proceedings of the Joint Venture of the 18<sup>th</sup> International Conference Intelligent Information Systems and the 25<sup>th</sup> International Conference on Artificial Intelligence (IIS '10)*: (pp. 207–218), June 8-10, Siedlce, Poland, 2010.
20. X. Zhang, W. Jiang, Z. Raś , and R. Lewis. "Blind Music Timbre Source Isolation by Multi-Resolution Comparison of Spectrum Signatures." *Rough Sets and Current Trends in Computing, in Proceedings of the 7<sup>th</sup> International Conference on RSCTC, M. Szezula et al. (EDs) LNAI 6068, Springer Berlin/Heidelberg (RSCTC '10)*: (pp. 610-619), Warsaw, Poland, 2010.
19. R. Lewis and A. M. White. "Seizure Detection Using Sequential and Coincident Power Spectra with Deterministic Finite Automata." In *Proceeding of Bioinformatics and Computational Biology (BIOCOMP '10)*: (Vol. I, pp. 481–488), July 12-15, Las Vegas, Nevada, 2010.

18. R. Lewis, D. Shmueli, and A. M. White. "Deterministic Finite Automata in the Detection of EEG Spikes and Seizures." In *Proceedings of The Joint Venture of The Ninth International Symposium on Intelligent Data Analysis (IDA '10)*: (pp. 103–113), May 19-21, Tucson, Arizona 2010.
17. T. E. Boulton, A. T. Chamillard, R. Lewis, N. Polok, G. Stock, D. Wortman. "Innovations in University Education in Innovation: Moving Beyond the B.S." *International Journal of Innovation Science (IJIS)*: (Vol.1 no 4, pp.167-178), Feb. 2010.
16. R. Lewis, J. Kalita, S. Sarmah, and D. Bhattacharyya. "Music Industry Scalar Analysis Using Unsupervised Fourier Feature Selection." *Recent Advances in Intelligent Information Systems, Academic Publishing House EXIT, in Proceedings of Intelligent Information Systems (IIS '09)*: (pp. 485–494), June 15 - 18 Krakow, Poland, 2009.
15. R. Lewis, A. Cohen, W. Jiang, and Z. Raś. "Mining Chordal Semantics in a Non-Tagged Music Industry Database." *Advances in Intelligent Information Systems, Academic Publishing House EXIT, Proceedings of Intelligent Information Systems (IIS '09)*: (pp. 473–483), June 15 – 18, Krakow, Poland, 2009.
14. R. Lewis, A. Cohen, W. Jiang, and Z. Raś. "Hierarchical Tree for Dissemination of Polyphonic Noise." In *Proceedings of The 6<sup>th</sup> International Conference on Rough Sets and Current Trends in Computing*, Springer-Verlag, Berlin, Heidelberg (*RSCCTC '08*): (pp. 448–456), Akron, OH, 2008.
13. Rory A. Lewis, Alicja Wierzchowska. "Parameter-Based Categorization for Musical Instrument Retrieval." In *Marzena Kryszkiewicz, James F. Peters, Henryk Rybinski, Andrzej Skowron, (Eds) Proceedings of Rough Sets & Intelligent Systems Paradigms, International Conference, Lecture Notes in Computer Science, Springer (RSEISP '07)*: (Vol. 4585, pp. 784-792 ) Warsaw, Poland, June 28-30, 2007.
12. R. Lewis, W. Jiang, and Z. Raś. "Mining Scalar Representations in a Non-Tagged Music Database." *Foundations of Intelligent Systems. In Proc. of LNAI*, Springer (*ISMIS'08*): (pp. 445–454), Toronto, Canada, 2007.
11. R. A. Lewis and A. Wierzchowska. "Categorization of Musical Instrument Sounds Based on Numerical Parameters." *Conceptual Structures: Knowledge Architectures for Smart Applications*, in *Proceedings of 15<sup>th</sup> International Conf. on Conceptual Structures, (ICCS '07)*: (Vol. 3, pp. 87-93), 2007.
10. R. Lewis, X. Zhang, and Z. Raś. MIRAI: Multi-hierarchical FS-Tree Based Music Information Retrieval System. (Invited Paper) *LNAI Springer, in Proceeding of Rough Sets and Intelligent Systems Paradigms. (RSEISP '07)*: (pp. 28–30), June Warsaw Poland 2007.
9. R. Lewis and Z. Raś. "Rules for Processing and Manipulating Scalar Music Theory." *IEEE Computer Society in Proceedings of the International Conference on Multimedia and Ubiquitous Engineering (MUE '07)*: (pp. 819–824), April 26-28, Seoul, Korea, 2007.
8. R. Lewis, Z. Raś : "Facial recognition", *Idea Group, Inc., 2008, John Wang (Ed.): Encyclopedia of Data Warehousing and Mining – 2<sup>nd</sup> Edition, (Journal)*: (Vol. II, pp. 857-862), 2008.
7. A. Wierzchowska, Z. Raś, X. Zhang, and R. Lewis. "Multi-Way Hierarchic Classification of Musical Instrument Sounds." *Multimedia and Ubiquitous Engineering in Seoul, Korea*, in *Proceedings of the IEEE CS Int. Conf. on Multimedia and Ubiquitous Engineering (MUE '07)*: (pp.897–902), April 26-28, 2007.
6. R. Lewis, X. Zhang, and Z. Raś. "Blind Signal Separation of Similar Pitches and Instruments in a Noisy Polyphonic Domain." *International Symposium on Methodologies for Intelligent Systems*. Springer, Berlin, Heidelberg Foundations of Intelligent Systems, F. Esposito et al. (Eds.), LNAI, Springer, (*ISMIS '06*): (Vol. 4203, pp. 228–237), Bari, Italy 2006.
5. R. Lewis, X. Zhang, and Z. Raś. "Knowledge Discovery Based Identification of Musical Pitches and Instruments in Polyphonic Sounds." *International Journal of Engineering Applications of Matricidal Intelligence, Elsevier ISSN:0952-1976*, (Vol. 20, No. 5, pp. 637–645), August 2007.
4. A. Wierzchowska, P. Synak, R. Lewis, and Z. Raś. "Creating Reliable Database for Experiments on Extracting Emotions from Music." In: Kłopotek M.A., Wierzchoń S.T., Trojanowski K. (eds) *Intelligent Information Processing and Web Mining. Advances in Soft Computing*. Springer, Berlin, Heidelberg (*IIS'05*): (Vol 31,pp. 395–404), Gdansk, Poland:, 2005.
3. A. Wierzchowska, P. Synak, R. Lewis, and Z. Raś. "Extracting Emotions from Music Data." *International Symp. on Methodologies for Intelligent Sys. Foundations of Intelligent Systems*, M. S. Hacid et al. (Eds.), LNAI, Springer, (*ISMIS 2005*): (Vol. 3488, pp.456–465) Saratoga Springs, New York, 2005.
2. R. Lewis and Z. Raś. "Innertron: New methodology of facial recognition, Part II." *Intelligent Information Processing and Web Mining. In Proceedings of the Intelligent Information Processing Symposium*, Springer, Berlin, Heidelberg (*IIS 2005*): (pp. 625 – 632), June 13-16, Gdansk, Poland: 2005.

1. R. Lewis and Z. Raś. "Innertron: New methodology of facial recognition, Part I." Intelligent Information Processing and Web Mining. In *Proceedings of the Intelligent Information Processing Symposium*, Springer, Berlin, Heidelberg ([IIS 2005](#)): (pp. 1 – 9), June 13-16, Gdansk, Poland: 2005.

#### **JOURNALS & INVITED PAPERS**

5. R. Lewis, B. Parks, D. Shmueli, and A. M. White. "Detecting Epileptogenesis in Power Variant Domains." *Journal of Control and Cybernetics (JC&C)*: Eds. M. Klopotek, A. Ioffe, K. Malanowski and F. Troeltzsch, (Vol 40, pp. 293–314), 2011.
5. T. E. Boulton, A. T. Chamillard, R. Lewis, N. Polok, G. Stock, D. Wortman. "Innovations in University Education in Innovation: Moving Beyond the B.S." *International Journal of Innovation Science (IJIS)*: (Vol.1 no 4, pp.167-178), Feb. 2010.
4. R. Lewis, C. Mello, A. Brooks-Kayal, J. Carlsen, H. Grabenstatter, and A. M. White.. "Autonomous neuro Clustering of Pathologic Oscillations Using Discretized Centroids." In ([MDA '13](#)): (pp. 12-23). 2013.
3. R. Lewis, X. Zhang, and Z. Raś. MIRAI: Multi-hierarchical FS-Tree Based Music Information Retrieval System. (Invited Paper) *LNAI Springer, in Proceeding of Rough Sets and Intelligent Systems Paradigms. (RSEISP '07)*: (pp. 28–30), June Warsaw Poland 2007.
2. R. Lewis, Z. Raś : "Facial recognition", *Idea Group, Inc., 2008, John Wang (Ed.): Encyclopedia of Data Warehousing and Mining – 2<sup>nd</sup> Edition, (Journal)*: (Vol. II, pp. 857-862), 2008.
1. R. Lewis, X. Zhang, and Z. Raś. "Knowledge Discovery Based Identification of Musical Pitches and Instruments in Polyphonic Sounds." *International Journal of Engineering Applications of Matricidal Intelligence, Elsevier ISSN:0952-1976*, (Vol. 20, No. 5, pp. 637–645), August 2007.

#### **INVITED SPEAKER**

2. Speaker & Moderator. 2<sup>nd</sup> Annual Autonomous Capabilities for DoD. Exploiting Autonomy for Mission Success, Sept. 19-20, 2018 | Alexandria, VA
1. Keynote speaker. *The Convergence of Artificial Intelligence and the Internet of Things*. Crowne Plaza, Palo Alto, CA. November 28 - 29, 2017.

#### **D. SYNERGISTIC ACTIVITIES**

11. Recipient of Outstanding Achievement: Teacher of the Year. College of Engr (Student Vote), 2018.
10. Designed and implemented AI for Greg LeMond Inc. 2015.
9. Designed and implemented AI for SKY Cycling team. 2016.
8. Designed and implemented AI for United States Olympic Committee. 2014.
7. Recipient of Outstanding Achievement: Teacher of the Year. College of Engr, Computer Science, 2012.
6. Recipient of Outstanding Achievement: Inventor of the Year CU. University of Colorado, 2011.
5. Department Head: Masters Degree Program Computer Science. University of Colorado Colorado Springs.
4. Designed and implemented AI in Neurosurgery Dept. at UC Denver Anschutz Medical School 2010 – 2016.
3. PI with 4 undergrads developed an STTR: iPhone App that helps addicts cope with their recovery.
2. Recipient of the "Innovations in Scholarship for Inclusive Excellence" (ISIE) grant. This grant addresses topics of diversity and inclusiveness. UCCS 2009.
1. Published author of an Apress signature iOS series books, "*Beginning iOS Storyboarding: Using Xcode*" "*iPhone and iPad Apps for Absolute Beginners*" used in colleges across the US and UK.

#### **PROGRAM COMMITTEE MEMBERSHIPS**

##### **JOURNALS:**

- Journal of Intelligent Information Systems, Integrating Artificial Intelligence and Database Technologies (JIIS 2016).
- Journal of Intelligent Information Systems (JIIS 2013).
- Engr App. of AI, Int. Journal of Intelligent Real-Time Automation (EAAI 2012).
- Journal of Convergence IT by the Advanced Institute of Convergence IT Technology (JCIT 2011).
- International Journal of Advancements in Computing Technology (IJACT 2010).
- The Journal of Intelligent Systems Conferences & Fundamental Information Journal (ISCFI 2009).

## **PROCEEDINGS**

- The 1<sup>st</sup> International Conference on Data Intelligence and Security. (ICDIS 2018)
- 28<sup>th</sup> Modern Artificial Intelligence and Cognitive Science Conference. (MAICS 2017)
- International Joint Conference on Rough Sets (IJCRS 2016)
- 22<sup>nd</sup> International Symposium on Methodologies for Intelligent Systems. (ISMIS 2015).
- International Conference on Web Intelligence and the 2014 Web Intelligence Congress (BIH 2014).
- 21<sup>st</sup> International Symposium on Methodologies for Intelligent Systems (ISMIS 2014).
- 9<sup>th</sup> International Seminar on Medical Information Processing and Analysis (SIPAIM 2013).
- 5<sup>th</sup> International Conference on Intelligent Decision Technologies (IDT 2013).
- The 2012 International Conference on Information and Knowledge Engineering (IKE 2012).
- IPC/IBR, 2<sup>nd</sup> Asian Conf. on Intelligent Information & Database Systems (ACIIDS 2010).
- IEA-AIE, 22<sup>nd</sup> Intl Conf. on Industrial, Engineering & Applied Intelligent Sys. (IEA-AIE 2009).
- 18<sup>th</sup> International Symposium on Methodologies for Intelligent Systems (ISMIS 2009).
- IEEE ICDM International Workshop on mining complex data (MCD 2008).
- 17<sup>th</sup> International Symposium on Methodologies for Intelligent Systems (ISMIS 2007).
- Intelligent Information Systems, MCD - Mining Complex Data (IIS 2006).

## **COMMITTEES**

- College of Engineering: Dean Hiring Committee.
- College of Engineering: DAZE Curriculum Committee.
- College of Engineering: Gallogly Chair Hiring Committee.
- Computer Science Department: Chair: Masters' Degree Program.
- Computer Science Department: Multi-disciplinary Committee for Systems Degree
- Computer Science Department: Faculty Hiring Committee.
- Computer Science Department: Chair: Library Committee.
- Computer Science Department: Equipment Purchasing Committee.
- Computer Science Department: Graduate Studies Committee.
- Conceptualized, presented and started working with EAS Dean to (SEO) Conference to UCCS.

## **COLLABORATORS AND OTHER AFFILIATIONS**

### **COLLABORATORS:**

- Martin K. -C. Yeh: School of Information Sciences & Technology, Penn State Brandywine, Media, Pennsylvania
- Yu Yan: Department of Learning & Performance Systems, Penn State University, University Park, Pennsylvania.
- Dan Gopstein: Tandon School of Engineering, New York University, New York, New York.
- Dhruva Bhattacharya, Prof. Computer Science, Tezpur University, Tezpur, Assam, India.
- Michael Bihn, PhD Student, Computer Science, University of Colorado Colorado Springs.
- Zsolt Borhegyi, Assoc. Prof. Neuropharmacology Group, Hungarian Academy of Sciences, Hungary.
- Terrance. E Boulton, Professor. Computer Science, University of Colorado Colorado Springs.
- Ron Broberg, PhD Student. University of Colorado Colorado Springs.
- Amy Brooks-Kayal, M.D., Prof. of Ped. & Neurology, Sect. Head, Child Neurology - Anschutz Medical Campus.
- Jessica Carlsen, Post-Doctoral Fellow SOM-PEDS - Anschutz Medical Campus.
- Amanda Cohen, PhD Student. Computer Science, University of North Carolina.
- Dorottya Cserpan, Post-Doctoral Fellow. Neuropharmacology Group, Hungarian Academy of Sciences, Hungary.
- Peter Erdi, Prof. Neuropharmacology Group, Hungarian Academy of Sciences, Hungary.
- Heidi Grabenstatter, Post-Doctoral Fellow SOM-PEDS - Anschutz Medical Campus.
- Wishuan Jiang, PhD Student. Computer Science. University of North Carolina.
- Jugal Kalita, Prof. Dept. Computer Science, University of Colorado Colorado Springs.

- Kamal Kamalaldin, Undergraduate Student. Kalamazoo College, Kalamazoo Michigan.
- Alayna Kennedy, Undergraduate Student. Bio Engineering, Pennsylvania State University.
- Chad Mello, PhD Student. Computer Science, University of Colorado Colorado Springs.
- Brian Parks, PhD Student. Computer Science, University of Colorado Colorado Springs.
- Zbigniew Raś , Prof. Habilitation. University of North Carolina Charlotte.
- Biswajit Sarmah, Prof. Jorhat Engineering College, Jorhat, Assam, India.
- Doran Shmueli, Prof. Dir. of Adult Epilepsy Div. at U of Colorado School of Medicine.
- Andrez Skowron, rof. Dean, Mathematics and Computer Science at Warsaw University.
- Mark Spitz, M.D., Prof. Dir. of Adult Epilepsy Div. at U of Colorado School of Medicine.
- Piotr Synak, Asst. Prof. Polish-Japanese Academy of Information Technology, Warsaw.
- Allen Waziri, M.D., Neurosurgeon / Clinical Researcher, Anschutz.
- Andrew M White, M.D., Assoc. Prof. Dir. of Pediatric Neurology at Denver’s Health Medical Center.
- Alicja Wieczorkowska, Prof. Polish-Japanese Academy of Information Technology, Warsaw.
- Xing Zhang, PhD Student. Computer Science. University of North Carolina.
- Somogyvari Zoltan, Assoc. Prof. Neuropharmacology Group, Hungarian Academy of Sciences, Hungary.

**GRADUATE AND POSTDOCTORAL ADVISORS**

- Zbigniew Raś Dir. KDD Lab, University of North Carolina.
- Terrance Boulton El Pomar Endowed Chair, UCCS

**THESIS ADVISOR AND POSTGRADUATE SCHOLAR SPONSORS:**

- PhD Students :: Katrina Nesterenko, Chad Mello, Chris Hammond, Matt Doman, Michael Bihn, Benjamin Garcia and James Ellenberger.
- Masters Students :: Bhakti Mehta, Maadh Hmosze, Nicholas Johnson, Ashely Whiteside, Gabriel Jordan, David Stites, Devon Bryant, Daniel Ruiz, Colton Williams and Kelly McMurtrey.

**E. RESEARCH SUPPORT**

**Pending Research Support**

- DARPA: Artificial Intelligence predictions in ISR. PI. \$6,300,000.
- IIS: CRCNS: *Robust Intelligence for Neurosurgery Intensive Care Unit*. PI. \$393,536.

**Current Research Support**

- IIS: SCH: INT: *Collaborative Research: Learning and Sensory-based Engagement, Arousal and Self-Efficacy (EASE) modeling for Adaptive Web-Empowerment Trauma Treatment*. Co-PI. \$1,4805,590.

**Completed Research Support**

- CNS: REU Site: *Machine Learning, Theory and Applications*. Co-PI. \$375,905.
- SBIR: *Online Support Network for Users with Dependencies*. Syberenity, & UCCS. PI: \$150,000.

**F. TEACHING**

**UCCS:**

- CS 4420/5420 Database Systems
- CS 3060 Object Oriented Programming with C++
- CS 1450 Data Structures
- CS 1150 Java, Principles of Computer Science
- CS 5450: KDD Apps in Neuroscience
- INOV 1010: Bachelor of Innovation Lab
- INOV 2100: Technical Writing, Proposals and Presentations
- CSCI 4802 5802: iPhone and iPad Programming (@UC Denver, 2010)
- BLAW 2010: Bus/Intellectual Property Law
- CS 2010: iPhone iOS: Objective C

- CS 5060: Selected Topics in Biometrics

#### COMPUTER SCIENCE COURSES TAUGHT

- |  |                                      |
|--|--------------------------------------|
| • Database Systems                     | Data Structures                      |
| • Object Oriented Programming with C++ | Fuzzy & Rough Set Theory Data Mining |
| • KDD Apps in Neuroscience             | SEO                                  |
| • Objective C                          | Database Security                    |
| • Java                                 | Logic and Design (Java & C#)         |
| • SQL Server                           | Data Structures                      |
| • C#                                   | Statistics for Decision Making       |
| • C++ Object-Oriented Programming      | Managerial Mathematics               |
| • Networking Concepts and App          | Business & eCommerce                 |
| • Internet-Oriented Programming        | SQL & ASP in .NET                    |
| • Database Apps in Commerce            | Database Concepts                    |
| • Decision Support / Expert Systems    |                                      |

#### MBA COURSES TAUGHT

- |   |  |
|---|--|
| • Database Essentials For Decision Making | Business Law                                 |
| • Managing Information Technology         | Principles of Information Security & Privacy |
| • Information Security Law                | Systems Analysis Planning & Control          |
| • Strategic Management of Technology      | Business Ethics                              |

#### TEACHING EXPERIENCE

- |  |  |
|--|--|
| • University of Colorado at Colorado Springs   | Department of Computer Science<br>Colorado Springs, CO 2008 - Present    |
| • University of Colorado at Denver             | Department of Computer Science<br>Denver, CO 2010 – 2010                 |
| • Catawba College                              | Private Liberal Arts College<br>Charlotte, NC 2007 - 2008                |
| • University North Carolina at Charlotte       | School of Electrical & Computer Engineering<br>Charlotte, NC 2003 - 2008 |
| • University North Carolina at Charlotte       | Belk College of Business<br>Charlotte, NC 2007 - 2008                    |
| • Bank of America/Keller Grad. School of Mgmt. | Executive MBA Program for Bank of America<br>Charlotte, NC 2002 - 2008   |
| • Providence High School                       | High School Math Teacher<br>Charlotte, NC 2001 - 2002                    |

#### G. PROFESSIONAL EXPERIENCE

- RAND Corporation: Researcher and Advisor. Scientific and legal parameters of AI and ML in DOD 2017 – Present.
- Warfighters Edge Research Laboratories: Fellow. Classified AI and ML Research for Pentagon. USAF 2017 – Present.
- Holland & Hart, LLP: Statistical-Legal Analyst: Work with Charles R. Lucy Esq. Formulate algorithms, find patterns where opposing counsel tried to hide evidence and then present my findings to the partners at Holland & Hart. Colorado Springs, CO 2009 - Present
- Pulte. Fortune 500: Senior Executive Consultant: Developed, negotiated and implemented nationwide C++, Java, .ASP application to interact accounts payables servers with scheduling, field personnel and field servers. Charlotte, NC 1999- 2000
- Global Crossings. Fortune 500: Senior Government Liaison: Conducted, prepared and scheduled meetings interacting VI Gov. officials with SAP, SAS, Cisco and IBM/Apache Server Executives. Drafted contracts and amendments. Prepped Government on the technology and set financial transfer protocol. St. Thomas, VI, 1999 – 1999

- f. Baikowski. Private Executive Contractor: Worked with CEO, Floyd McClung: Technical advisor in litigation with France-based affiliate. Slurry technology for VLSI fabrication post litigation options/\$; and present value of IP. Secured contract for Venture Capital in a secondary market as part of settlement procedures. Charlotte, NC 1999 - 1999
- g. Dougherty & Dremann LLP. Associate: Law Firm: Set up eCommerce s-corps, off-shore enterprises, SAS and SAP eCommerce ERPs. Worked with programmers patenting and copyrighting eProms, VLSI, Java, C/C++ programs into patentable mathematical algorithms. Advised clients on emerging technologies. Charlotte, NC 1997 - 1999
- h. Skjervan Morrill MacPherson Friel LLP. Law School: Legal Counsel: Continuation of AMD v. Intel Litigation: Microprocessor electrical circuit analysis for senior partners in microprocessor litigation. Member of Venture Capital team: Duties included financial modeling for high tech intellectual property. Evaluation of investment opportunities. Financial analysis reports & identification of high tech of risks and opportunities. San Francisco, CA 1995 - 1997
- i. Fulbright & Jaworski LLP. Law School: Legal Counsel: AMD vs. Intel: High Tech Litigation. Patent rejections involving microprocessor electrical circuits and electronics. email security. Domain Squatting and Black Hat SEO litigation. Devised deposition strategy to prove Intel engineers stole microprocessor Intellectual Property. Austin, TX 1994 - 1995