Dr. Dainis Boumber

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Education
- **Ph.D.** in Computer Science, University of Houston, 2018
- **B.Sc.** in Computer Science, University of Houston, 2012

Employment History
- 2018-2019   **Lead Data Scientist,** SnapRapid, LLC.
- 2017-2019   **CTO and Co-Founder,** AI Savvy**,** Inc.
- 2017-2018   **Data Scientist,** AE Studio
- 2015-2018   **GAANN Fellow/Research Assistant,** Pattern Analysis Laboratory, University of Houston
- 2012-2015   **Research Scientist/Project Manager,** I2C Laboratory, University of Houston
- 2006-2012   **Software/Full Stack Engineer,** DomainSpa Inc.

Internships
- 2015-2016   HRL Laboratories (2 summers)
- 2013   Air Force Research Laboratory

Technical and Management Experience
- **SnapRapid:** Researched, designed, developed and delivered solutions that use AI/Machine Learning to estimate potential influence of social media accounts featuring multi-media content. Used NLP to determine their relevance, skill set, and the role account author plays in the industry. Used in a recommendation engine.
- **AI-Savvy:** Responsible for Solution Architecture, Data Science, Business Development, and delivery of product. Managed a technical team of 10, 2 PhDs and 3 MS Data Scientists core data science team. External interaction with CEOs and CTOs.
- **AE Studio:** Researched and developed solutions for clients who needed Visual QA and Visual Dialogue. Used Image Recognition, NLP and Deep Learning to help achieve their goals.
- **Pattern Analysis Laboratory:** Dissertation in *Domain Adaptation using Deep Adversarial Models*, research in Machine Learning and NLP. Worked on applied and research projects for oil & gas and NASA.
- **I2C Laboratory:** Worked with the director of Cyber Security Division of HSARPA**.** Managed team of 7 employees on a $1 million project that improved mobile device's security by detecting is the person using it is not the owner based on previous patterns. Worked as a data scientist to prevent DDoS attacks on 911 emergency telecommunication channels. Both projects were funded by the DHS.
- **Software Engineer, DomainSpa Inc.** Designed and implemented applications and tools for a domain registrar. Co-authored a meta-search engine.
- **HRL Laboratories:** SEAndroid/SELinux kernel modification project for the GM. CloudCOP - Distributed Cloud Cryptography Project for the NSA. Responsible for network stack and parallelism.
- **Air Force Research Laboratory (AFRL):** Worked on development of chatbot software to be used for in-house tech support management.

Technical Skills
- **Expert level**: Keras, Tensorflow, fastai, sklearn, Pandas, NLTK, spaCy, Python, PyTorch, C/C++.
- Comfortable with MongoDB, Docker, Caffe, Torch, R, SQL, AWS, others. Can wear many hats.

Projects
- Co-author of openSMILE for Android, popular software used in Acoustic Pattern Analysis. More than 10 downloads/day for 4 years. **openSMILE - http://www.audeering.com/research/opensmile/**
- **NG-911 DDOS Prevention** - comprehensive software package that utilizes AI to prevent DDOS attacks originating from text, VoIP & other means. Solution currently being adopted by 911 Call Centers.
- **Github**: dainis-boumber, https://github.com/dainis-boumber

Publications
- Dainis Boumber, Yifan Zhang, Arjun Mukherjee, "Experiments with Convolutional Neural Networks for Multi-Label Authorship Attribution", LREC 2018, 11th Conference on Language Resources and Evaluation
- Vilalta R., Dhar Gupta K., Boumber D., Meskhi M. M., "A General Approach to Domain Adaptation with Applications in Astronomy", Publications of the Astronomical Society of the Pacific (PASP), 2018, IOP Science Press.
- Pablo Guillen (University of Houston), German Larrazabal (Repsol USA), Gladys González (Repsol USA) Dainis Boumber (University of Houston), Ricardo Vilalta (University of Houston), "Supervised learning to detect salt body", 2015 SEG's International Exposition and 85th Annual Meeting in New Orleans, Louisiana
- W. Shi, Y. Wen, Z. Liu, X. Zhao, D. Boumber, R. Vilalta and L. Xu, "Scalable and Fault Resilient Physical Neural Networks on a Single Chip", CASES 2014
- Tao Feng, Zhimin Gao, Dainis Boumber, Tzu-Hua Liu, Nicholas DeSalvo, Xi Zhao and Weidong Shi, "USR: Enabling Identity Awareness and Usable App Access Control During Hand-free Mobile Interactions." Mobicase 2014
- Lee, Z. Liu, X. Tian, D. H. Woo, W. Shi, D. Boumber, Y. Yan, and K. Kwon, "Acceleration of bulk memory operations in a heterogeneous multicore architecture", PACT 2012
- T. Feng, Z. Liu, B. Carbunar, D. Boumber and W. Shi, "Continuous Remote Mobile Identity Management Using Biometric Integrated Touch-Display", MICRO Workshops 2012: 55-62.

Upcoming Work
- Dissertation on "Domain Adaptation using Deep Adversarial Networks" (under 2 year mandatory embargo)
- Two first author and one second author conference papers on language modeling and domain adaptation under review/pending publication

Awards
- GAANN Fellow
- Academic Excellence Award
- Dean's List

Residency Status
- US Citizen