

7a.016.DU - A Continual Learning Framework for Domain Adaptation and Provenance Tracking

Project - Team

Team Member	Role	Email	Phone Number	Academic Sites/Industry Members
Gail Rosen	PI	gailr@ece.drexel.edu	2158950400	Drexel University
Zhengqiao (Joe) Zhao	Student	Not available	Not available	Drexel University
Creighton Kagey	Project Mentor	Creighton.Kagey@bd.com	Not available	Funded By: Becton Dickinson and Company

Project - Summary

- Implement a continual learning framework that can incrementally update classifiers and efficiently relabel old datasets without the cost of reprocessing the existing database. *Significance:* in a previous solution, the classifiers are entirely retrained when the database is updated with new information – this is redundant and wastes time and computation. Such a framework can greatly reduce the computational redundancies and make instant decisions using latest information.
- Enable semi-supervised learning and novel classes detection. *Significance:* one would like to compare performance of new data to older data and making these comparisons is impossible since the data was classified with older knowledge. By semi-supervised learning, we can make a unified system that will leverage labeled and unlabeled data to incrementally update the classifier and previous datasets. This will enable one to classify on a large volume data, which occurs in healthcare, social networks.

Project - Novelty of Approach

Most provenance must be manually tracked and classifiers do not have the ability to adapt to new environments/domains.

Project - Deliverables

	Deliverable
1	A continual learning prototype software that ingests, and classifies digital informational objects like DNA sequences
2	Publications/patent/documentations that discusses the implementation and validation of the framework
3	Project report on potential findings/discoveries in the database using the proposed algorithm

Project - Presentation Video (Spring 2018)

[Video Link \(10:48 minutes\)](#)

Project - Documents

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7a.001.UL_ Fault-tolerance Strategies for Handling_Quad.pdf

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Version history

Version 1 (current version)

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> 7a.016.DU_Executive Summary.docx	Feb 16, 2018 by Sally Johnson
> 7a.016.DU_Quad Chart_2018 Spring Meeting.PPTX	Mar 16, 2018 by Sally Johnson
> 7a.016.DU_Poster_2018 Spring Meeting.pptx	Mar 16, 2018 by Sally Johnson
> 7a.016.DU_2018 Fall Meeting Poster.pptx	Nov 12, 2018 by Sally Johnson
> Year 7_CVDI Mid-Year Report_7a.016.DU.docx	Jan 03, 2019 by Sally Johnson

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Project - Comments

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	IAB - Industry Advisory Board	+ ★ ☆
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	Year 7 - Funded Projects (7/1/18 - 6/30/19)	+ ★ ☆
	Year 8 - Proposed Projects	+ ★ ☆

