İnci M. Baytaş

October 6, 2025

Contact Information

Department of Computer Engineering, Bogazici University,
Bebek, Istanbul, 34342, Turkey
+90(212) 359-6862
inci.baytas@bogazici.edu.tr

Research Interests

Machine learning, deep learning, adversarial machine learning, biomedical informatics.

Education

Michigan State University, East Lansing, MI, USA

Ph.D., Computer Science and Engineering, August 2014 - May 2019

- Thesis: *Contributions to Machine Learning in Biomedical Informatics*
- Advisors: Anil K. Jain and Jiayu Zhou

Istanbul Technical University, Istanbul, Turkey

M.Sc., Electronics and Communication Engineering, September 2012 - May 2014

- Thesis: *Digital Video Stabilization with SIFT Flow*
- Advisor: Melih Pazarci
- GPA: 3.95/4.00

B.Sc., Electronics and Communication Engineering, September 2008 - June 2012

- GPA: 3.76/4.00 (Honor List, Ranked 2nd in the faculty)

Experience

Assistant Professor **November 2019 - Current**
Department of Computer Engineering, Bogazici University
Istanbul, Turkey

Research Assistant **August 2014 - May 2019**

Pattern Recognition and Image Processing Lab, Michigan State University, East Lansing, MI, USA.
Advisor: Anil K. Jain Co-advisor: Jiayu Zhou

Research Intern **May 2017 - August 2017**

IBM T.J. Watson Research Center, Healthcare Analytics Research, Yorktown Heights, NY, USA

Research Intern **May 2015 - August 2015**

Alibaba, The Institute of Data Science and Technologies, Seattle, WA, USA

Teaching Assistant **December 2013 - July 2014**

Department of Electronics and Communication Engineering, Istanbul Technical University, Istanbul, Turkey

Teaching

Bogazici University, Istanbul, Turkey **Fall 2019-**

- CMPE 343 Introduction to Probability and Statistics for Computer Engineers
- CMPE 462 Machine Learning
- CMPE 544 Pattern Recognition
- CMPE 597 Sp. Tp. Deep Learning since
- SWE 591 Sp. Tp. Principles of Neural Networks and Deep Learning Spring 2020
- SWE 582 Sp. Tp. Machine Learning for Data Analytic Fall 2019

Michigan State University, East Lansing, MI, USA **Fall 2018**

- CSE 491 Introduction to Machine Learning co-taught with Asst. Prof. Jiayu Zhou.
- CSE 802 Pattern Recognition, assisted Prof. Anil K. Jain.

Publications

1. Elvan Karasu and **Inci M. Baytas**, "Conversion-aware forecasting of Alzheimers disease via featurewise attention." *Pattern Analysis and Applications* 28, no.2, 2025.
2. Ogulcan Ozdemir, **Inci M. Baytas**, and Lale Akarun. "Cross Attentive Multi-Cue Fusion for Skeleton-Based Sign Language Recognition.", *IEEE Access*, 2025.
3. Ozan Ozgur, and **Inci M. Baytas**, "Out-of-Distribution Detection with Prototype Similarity." In 2024 *IEEE International Conference on Knowledge Graph (ICKG)*, pp. 235-243. IEEE, 2024.
4. Tugrul Hasan Karabulut, and **Inci M. Baytas**, "Channel-Attentive Graph Neural Networks." In 2024 *IEEE International Conference on Data Mining (ICDM)*, pp. 729-734. IEEE, 2024.
5. Ilkay Sikdokur, **Inci M. Baytas**, and Arda Yurdakul, "EdgeConvEns: Convolutional Ensemble Learning for Edge Intelligence.", *IEEE Access*, 2024. doi:10.1109/ACCESS.2024.3460406.
6. Ezgi Paket and **Inci M. Baytas**, "Adversarial Robustness for Deep Metric Learning." *IEEE International Conference on Image Processing*, pp. 367-373, 2024.
7. Ogulcan Ozdemir, **Inci M. Baytas**, and Lale Akarun, "Hand Graph Topology Selection for Skeleton-Based Sign Language Recognition.", *IEEE 18th International Conference on Automatic Face and Gesture Recognition*, pp. 1-5, 2024.
8. Serbes, Duygu, and **Inci M. Baytas**,"Perturbation Augmentation for Adversarial Training with Diverse Attacks.", *Gazi University Journal of Science Part A: Engineering and Innovation*, vol. 11, no. 2, pp. 274-288, 2024, https://doi.org/10.54287/gujsa.1458880.
9. Ipek Erdogan, and **Inci M. Baytas**, "Signer-independent sign language recognition with feature disentanglement.", *Turkish Journal of Electrical Engineering and Computer Sciences*, vol. 32, no. 3, 2024.
10. **Inci M. Baytas**, "Predicting Progression from Mild Cognitive Impairment to Alzheimers Dementia with Adversarial Attacks.", *IEEE Journal of Biomedical and Health Informatics* vol. 28, no. 6, pp. 3750-3761, June 2024, doi:10.1109/JBHI.2024.3373703
11. Ogulcan Ozdemir, **Inci M. Baytas**, and Lale Akarun., "Multi-cue temporal modeling for skeleton-based sign language recognition.", *Frontiers in Neuroscience*, vol 17: 487, 2023, https://doi.org/10.3389/fnins.2023.1148191.

12. **Inci M. Baytas** and Debayan Deb, "Robustness-via-Synthesis: Robust Training with Generative Adversarial Perturbations", *Neurocomputing*, vol 516, pg. 49-60, 2023, https://doi.org/10.1016/j.neucom.2022.10.034, 2023.

13. Deniz Sezin Ayvaz and **Inci M. Baytas**, "Investigating Conversion from Mild Cognitive Impairment to Alzheimer's Disease using Latent Space Manipulation", *The International Symposium on Health Informatics and Bioinformatics*, Erdemli, Mersin, TRKYE, 2022, Accessed: 00, 2023. [Online].
Available: https://hibit2022.ims.metu.edu.tr/

14. Oguz Kaan Yuksel and **Inci M. Baytas**, "Adversarial Training with Orthogonal Regularization",*The 28th IEEE Conference on Signal Processing and Communication Applications*, 2020, pp. 1-4, doi: 10.1109/SIU49456.2020.9302247.

15. Ilkay. Sikdokur, **Inci. M. Baytas** and Arda Yurdakul, Image Classification on Accelerated Neural Networks, *6th Turkish High-Performance Computing Conference, BASARIM20*, Oct. 8-9, 2020, Ankara, Turkey.
Available: https://arxiv.org/abs/2203.11081

16. **Inci M. Baytas**, Cao Xiao, Fei Wang, Anil K. Jain, Jiayu Zhou, "Heterogeneous Hyper-Network Embedding", *IEEE International Conference of Data Mining*, 2018.

17. Mengying Sun, **Inci M. Baytas**, Liang Zhan, Zhangyang Wang, Jiayu Zhou, "Subspace Network: Deep Multi-Task Censored Regression for Modeling Neurodegenerative Diseases", *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, 2018.

18. Cao Xiao, Ying Li, **Inci M. Baytas**, Jiayu Zhou, Fei Wang, "An MCEM Framework for Drug Safety Signal Detection and Combination from Heterogeneous Real World Evidence", *Scientific Reports*, vol.8, *Nature*, 2018.

19. **Inci M. Baytas**, Cao Xiao, Xi Zhang, Fei Wang, Anil K. Jain and Jiayu Zhou, "Patient Subtyping via Time-Aware LSTM Networks", *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, 2017.

20. Liyang Xie, **Inci M. Baytas**, Kaixiang Lin and Jiayu Zhou, "Privacy-Preserving Distributed Multi-Task Learning with Asynchronous Updates", *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, 2017.

21. **Inci M. Baytas**, Ming Yan, Anil K. Jain and Jiayu Zhou, "Asynchronous Multi-Task Learning", *IEEE 16th International Conference on Data Mining*, 2016.

22. **Inci M. Baytas**, Kaixiang Lin, Fei Wang, Anil K. Jain and Jiayu Zhou, "PHENOTREE: Interactive Visual Analytics for Hierarchical Phenotyping from Large-Scale Electronic Health Records", *IEEE Transactions on Multimedia, Special Issue on Visualization and Visual Analytics for Multimedia*, vol.18, no.11, pp. 2257-2270, 2016.

23. **Inci M. Baytas**, Kaixiang Lin, Fei Wang, Anil K. Jain and Jiayu Zhou, "Stochastic convex sparse principal component analysis", *EURASIP Journal on Bioinformatics and Systems Biology*, vol. 2016, no. 15, 2016.

24. Kaixiang Lin, Jianpeng Xu, **Inci M. Baytas**, Shuiwang Ji and Jiayu Zhou, "Multi-Task Feature Interaction Learning" *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, 2016.

25. Qi Qian, **Inci M. Baytas**, Rong Jin, Anil K. Jain, Shenghuo Zhu, "Similarity Learning via Adaptive Regression and Its Application to Image Retrieval", *arXiv:1512.01728 [cs.LG]*, 2015.

26. **Inci M. Baytas** and Bilge Gunsel, "Head Motion Classification with 2D Motion Estimation" *IEEE 22nd Signal Processing and Communications Applications Conference (SIU)*, Trabzon, Turkey, 2014.

Funded Projects

The Scientific and Technological Research Council of Turkey, TUBITAK 3501 **2022-2025**
Role: Principal investigator
Project's title: Investigation of the Conversion between Mild Cognitive Impairment and Alzheimer's Disease with Artificial Intelligence

Bogazici University Research Fund, BAP START-UP **2020-2023**
Role: Principal investigator
Project's title: Adversarial Robustness and Its Applications in Healthcare

Awards and Scholarships

- TUBITAK Ufuk 2020 Eşik Üstü Ödülü, 2020
- 1st Place Poster Award, Department of Computer Science and Engineering Michigan State University, 2017.
- Ranked 2nd in the Faculty of Electrical and Electronic Engineering Istanbul Technical University, June 2012.
- Scholarship for Graduate Education
  The Scientific and Research Council of Turkey (TUBITAK), 2012-2014.

Memberships

- IEEE-Institute of Electrical and Electronics Engineers
- IAPR-International Association of Pattern Recognition

Activity

- Co-organizer, PRHA 2024: Pattern Recognition in Healthcare Analytics, an ICPR 2024 Workshop, December 1, 2024
  https://sites.google.com/view/prha2024/home
- Co-organizer, PRHA 2023: Pattern Recognition in Healthcare Analytics, an ACML 2023 Workshop, November 11, 2023
  https://sites.google.com/view/prha2023/
- Co-organizer, PRHA 2022: Pattern Recognition in Healthcare Analytics, an ICPR 2022 Workshop, August 21, 2022
  https://sites.google.com/view/icpr-prha2022/home
- Co-editor, Frontiers in Digital Health Special Issue on Pattern Recognition for Healthcare Analytics, 2022
  Editorial: https://doi.org/10.3389/fdgth.2023.1186713

Service

Technical Committee
Communication Officer of IAPR Technical Committee 20 on Pattern Recognition for Bioinformatics and Digital Health
https://sites.google.com/view/pr-for-health/home

Reviewer
- SIGKDD Conference on Knowledge Discovery and Data Mining, program committee member since 2024
- IEEE Transactions on Artificial Intelligence
- IEEE Transactions on Pattern Analysis and Machine Intelligence

- IEEE Transactions on Knowledge and Data Engineering
- IEEE Journal of Biomedical and Health Informatics
- Applied Network Science, 2019
- IEEE Transactions on Services Computing
- Data Mining and Knowledge Discovery, Springer
- Neurocomputing Journal, Elsevier
- Information Fusion, Elsevier
- Pattern Recognition Journal, Elsevier
- AAAI Conference on Artificial Intelligence, program committee member since 2019
- Workshop on Data Mining for Medical Informatics (DMMI), program mommittee member 2016
- EURASIP Journal on Bioinformatics and Systems Biology, SpringerOpen 2016
- Journal of Electronic Imaging, SPIE 2015