CURRICULUM VITAE
Nicha C. Dvornek, PhD

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Contact information:

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Proposed for: -

Education:

08/2002-05/2006 BS, Biomedical Engineering, Johns Hopkins University, Baltimore, MD
08/2006-12/2007 MS, Engineering & Applied Science, Yale University, New Haven, CT
01/2008-05/2009 MPhil, Engineering & Applied Science, Yale University, New Haven, CT
06/2009-12/2012 PhD, Engineering & Applied Science, Yale University, New Haven, CT

Career/Academic Appointments:

09/2012-06/2015 Postdoctoral Associate, Department of Radiology & Biomedical Imaging (formerly Diagnostic Radiology), Yale University School of Medicine, New Haven, CT
07/2015-06/2017 Postdoctoral Fellow, Child Study Center, Yale University School of Medicine, New Haven, CT
07/2017-06/2018 Associate Research Scientist, Department of Radiology & Biomedical Imaging, Yale University School of Medicine, New Haven, CT
07/2018-present Assistant Professor, Department of Radiology & Biomedical Imaging, Yale University School of Medicine, New Haven, CT
09/2019-present Assistant Professor, Department of Biomedical Engineering, Yale University, New Haven, CT (Secondary appointment)

Professional Honors & Recognition

International/National/Regional

2005 Alpha Eta Mu Beta, Johns Hopkins University, Baltimore, MD
2005 Tau Beta Pi, Johns Hopkins University, Baltimore, MD
2006 Johns Hopkins University Women's Club Scholarship, Baltimore, MD
2006 Tau Beta Pi (Johns Hopkins University Chapter) Appreciation Award, Baltimore, MD
2006 Richard J. Johns Award, Johns Hopkins University Department of Biomedical Engineering, Baltimore, MD
2007 Honorable Mention Poster Award, SPIE Medical Imaging, San Diego, CA
2010 Travel Award, International Symposium on Biomedical Imaging 2010, Rotterdam, The Netherlands
2011 NIH-funded Travel Award, International Symposium on Biomedical Imaging 2011, Chicago, IL
2017 Scholarship for Junior Scientists from Underrepresented Populations, Information Processing in Medical Imaging 2017, Boone, NC
2019 Best Paper Award, 10th International Workshop on Machine Learning in Medical Imaging, Shenzhen, China
2019 Best Challenger Award, Connectomics in Neuroimaging - Transfer Learning Challenge, Shenzhen, China

2020	Best Paper Award, 2nd MICCAI Workshop on Domain Adaptation and Representation Transfer, Virtual
2021	Honorable Mention Reviewer Award, Medical Imaging with Deep Learning 2021, Virtual
2021	Honorable Mention Outstanding Reviewer, Medical Image Computing and Computer Assisted Intervention 2021, Virtual

University

2006	Pierre W. Hoge Fellowship, Yale University, New Haven, CT
2006	Faculty of Engineering Fellowship, Yale University, New Haven, CT
2010	Graduate Student Association Conference Travel Fund Award, Yale University, New Haven, CT
2013	Diagnostic Radiology Grand Rounds Poster Award, Yale School of Medicine, New Haven, CT
2014	James Hudson Brown – Alexander Brown Coxe Postdoctoral Fellowship, Yale School of Medicine, New Haven, CT

Grant/Clinical Trials History:

Current Grants

Agency:	NIH/NCI
ID#:	R01 CA224140
Title:	"Personalized Task-Based Respiratory Motion Correction for Low-Dose PET/CT"
P.I.:	Chi Liu, PhD
Role on project:	Investigator
Percent effort:	30%
Total costs:	$3,135,550 (to date)
Project period:	07/02/2018 – 06/30/2023

Agency:	NIH/NIBIB
ID#	R01 EB025468
Title:	"Quantitative Low-Dose PET Imaging"
PI:	Chi Liu, PhD / Richard Carson, PhD
Role on Project:	Investigator
Percent effort:	3%
Total costs:	$3,170,539 (to date)
Project period:	07/24/2018 – 04/30/2023

Agency:	NIH/NIBIB
ID#:	R21 EB026759
Title:	"Non-invasive Estimation of the Arterial Input Function in PET Studies using Whole-Body Physiological Models"
PI:	Jean-Dominique Gallezot, PhD
Role on project:	Investigator
Percent effort:	0.75%
Total costs:	$607,000 (to date)
Project period:	09/16/2019-06/30/2023

Agency:	Yale School of Medicine
ID#:	Program for the Promotion of Interdisciplinary Team Science
Title:	"Systems Neuroimaging Resource for Personalized Intervention"
PI:	James S. Duncan, PhD / Richard Carson, PhD / Todd Constable, PhD / Douglas Rothman, PhD
Role on project:	Project 4 co-leader
Percent effort:	2%

Total costs: $196,993
Project period: 09/01/2021-08/31/2023

Agency: NIH/NINDS
ID#: R01 NS035193
Title: "Dynamic Functional Image-based Deep Learning for Therapy Assessment in Autism"
PI: James S. Duncan, PhD / Lawrence H. Staib, PhD / Denis Sukhodolsky, PhD / Pamela Ventola, PhD
Role on project: Investigator
Percent effort: 15%
Total costs: $637,183 (to date)
Project period: 4/01/2022-03/31/2027

Past Grants

Agency: NIH/NLM
ID# R01 LM010142
Title: "Fast 3D Reconstruction Algorithms for Cryo-EM"
PI: Hemant D. Tagare, PhD
Role on project: Postdoctoral Associate, 09/01/2012-06/30/2014
Percent effort: 100% ($41,000 per year)
Total costs: $1,569,824
Project period: 07/15/2010 – 07/14/2015

Agency: NIH/NIMH
ID# R01 MH100028
Title: "Multimodal Developmental Neurogenetics of Females with ASD"
PI: Kevin Pelphrey, PhD; Subcontract - James S. Duncan, PhD / Pamela Ventola, PhD
Role on project: Investigator
Percent effort: 52%
Total costs: $25,438,041
Project period: 09/04/2012 – 07/31/2022

Agency: Yale School of Medicine
ID# James Hudson Brown – Alexander Brown Coxe Postdoctoral Fellowship
Title: "Fast Image Processing for Cryo-EM Structure Determination"
PI: Nicha C. Dvornek, PhD
Percent effort: 100%
Total costs: $42,000
Project period: 07/01/2014 – 06/30/2015

Agency: NIH/NIMH
ID# T32 MH018268
Title: "Training Program in Childhood Neuropsychiatric Disorders"
PI: Michael J. Crowley, PhD
Role on project: Postdoctoral Fellow, 07/01/2015-06/30/2017
Percent effort: 100% ($51,120 per year)
Total costs: $2.0M (round of funding during fellowship)
Project period: 07/01/2015 – 06/30/2020 (round of funding during fellowship)

Agency: NIH/NINDS
ID# R01 NS035193
Title: "Subnetwork-based Quantitative Imaging Biomarkers for Therapy Assessment in Autism"

PI: James S. Duncan, PhD / Lawrence H. Staib, PhD / Kevin A. Pelphrey, PhD
Role on project: Associate Research Scientist, 07/01/2017-06/30/2018
Percent effort: 100% ($60,000 per year)
Total costs: $1,917,951 (latest round of funding)
Project period: 09/01/2016 – 05/31/2022 (latest round of funding)

Agency: NIH/NINDS
ID#: R01 NS035193
Title: "Subnetwork-based Quantitative Imaging Biomarkers for Therapy Assessment in Autism"
PI: James S. Duncan, PhD / Lawrence H. Staib, PhD / Kevin A. Pelphrey, PhD
Role on project: Investigator
Percent effort: 15%
Total costs: $1,917,951 (latest round of funding)
Project period: 09/01/2016 – 03/31/2022 (latest round of funding)

Invited Speaking Engagements, Presentations, Symposia & Workshops Not Affiliated With Yale:

International/National

1. "Predicting Autism Behavioral Treatment Response from Baseline Functional MRI." Rising Stars in Biomedical, Massachusetts Institute of Technology, Cambridge, MA 2016

Peer-Reviewed Presentations & Symposia Given at Meetings Not Affiliated With Yale:

International/National

1. Beaber A*, **Chitphakdithai N***, and Kaznessis Y. Design and Optimization of Gene Oscillatory Networks through Stochastic Simulations. Biomedical Engineering Society Annual Fall Meeting, Section on Highlights of Undergraduate Bioengineering Research, Baltimore, September 2005 (Oral presentation).
2. Jain AK, An M, **Chitphakdithai N**, Chintalapani G, Fichtinger G. C-arm calibration: is it really necessary?. SPIE Medical Imaging, San Diego, February 2007 (Poster presentation).
3. **Chitphakdithai N** and Duncan JS. Pairwise Registration of Images With Missing Correspondences Due to Resection. 7th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Rotterdam, April 2010 (Oral presentation).
4. **Chitphakdithai N** and Duncan JS. Non-rigid Registration with Missing Correspondences in Preoperative and Postresection Brain Images. 13th International Conference on Medical Image Computing and Computer Assisted Intervention, Beijing, September 2010 (Oral presentation).
5. **Chitphakdithai N**, Vives KP, and Duncan JS. Registration of Brain Resection MRI with Intensity and Location Priors. 8th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Chicago, April 2011 (Oral presentation).
6. **Chitphakdithai N**, Chiang VL, and Duncan, JS. Non-rigid Registration of Longitudinal Brain Tumor Treatment MRI. 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Boston, September 2011 (Oral presentation).
7. **Chitphakdithai N**, Chiang,VL, Vives K, Duncan JS. Robust Registration of Brain MRI with Missing Correspondences. Biomedical Engineering Society Annual Meeting, Hartford, October 2011 (Poster presentation).
8. **Chitphakdithai N**, Chiang VL, and Duncan JS. Tracking Metastatic Brain Tumors in Longitudinal Scans via Joint Image Registration and Labeling. Second International Workshop on Spatiotemporal Image Analysis for Longitudinal and Time-Series Image Data, Nice, October 2012 (Poster presentation).
9. **Dvornek NC**, Sigworth FJ, Tagare HD. A Fast EM Algorithm for Single Particle Reconstruction. National Resource for Automated Molecular Microscopy Workshop on Advanced Topics in EM Structure Determination, La Jolla, November, 2014 (Poster presentation).

10. **Dvornek NC**, Yang D, Venkataraman A, Ventola P, Staib LH, Pelphrey KA, Duncan JS. Prediction of Autism Treatment Response from Baseline fMRI using Random Forests and Tree Bagging. Sixth International Workshop on Multimodal Learning for Clinical Decision Support, Athens, October 2016 (Oral presentation).
11. **Dvornek NC**, Ventola P, Pelphrey KA, Duncan JS. Identifying Autism from Resting-State fMRI Using Long Short-Term Memory Networks. Eighth International Workshop on Machine Learning in Medical Imaging, Quebec City, September 2017 (Oral presentation).
12. **Dvornek NC**, Ventola P, Duncan JS. Combining Phenotypic and Resting-State fMRI Data for Autism Classification with Recurrent Neural Networks. 15th IEEE International Symposium on Biomedical Imaging, Washington, D.C., April 2018 (Poster presentation).
13. Zhuang J, **Dvornek NC**, Li X, Yang D, Ventola P, Duncan JS. Prediction of Pivotal Response Treatment Outcome with Task Fmri Using Random Forest and Variable Selection. 15th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Washington, D.C., April 2018 (Poster presentation).
14. Li X, **Dvornek NC**, Papademetris X, Zhuang J, Staib LH, Ventola P, Duncan JS. 2-Channel Convolutional 3d Deep Neural Network (2cc3d) for Fmri Analysis: Asd Classification and Feature Learning. 15th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Washington, D.C., April 2018 (Oral presentation).
15. Li X, **Dvornek NC**, Zhuang J, Yang J, Ventola P, Duncan JS. ASD Brain Biomarker Detection on fMRI Images by Analyzing Deep Neural Network (DNN). Organization for Human Brain Mapping Annual Meeting, Singapore, June 2018 (Oral presentation).
16. Li X, **Dvornek NC**, Zhuang J, Ventola P, Duncan JS. Brain Biomarker Interpretation in ASD Using Deep Learning and fMRI. International Conference on Medical Image Computing and Computer Assisted Intervention, Granada, September 2018 (Poster presentation).
17. **Dvornek NC**, Yang D, Ventola P, Duncan JS. Learning Generalizable Recurrent Neural Networks from Small Task-fMRI Datasets. International Conference on Medical Image Computing and Computer Assisted Intervention, Granada, September 2018 (Poster presentation).
18. Zhuang J, **Dvornek NC**, Li X, Ventola P, Duncan JS. Prediction of severity and treatment outcome for ASD from fMRI. Predictive Intelligence in Medicine (MICCAI Workshop), Granada, September 2018 (Poster presentation).
19. Zhuang J, **Dvornek NC**, Zhao Q, Li X, Ventola P, Duncan JS. Prediction of Treatment Outcome for Autism from Structure of the Brain Based on Sure Independence Screening. IEEE International Symposium on Biomedical Imaging, Venice, April 2019 (Poster presentation).
20. Li X, **Dvornek NC**, Zhou Y, Zhuang J, Ventola P, Duncan JS. Efficient Interpretation of Deep Learning Models Using Graph Structure and Cooperative Game Theory: Application to ASD Biomarker Discovery. Information Processing in Medical Imaging, Hong Kong, June 2019 (Poster presentation).
21. Li X, **Dvornek NC**, Zhou Y, Zhuang J, Ventola P, Duncan JS. Graph Neural Network for Interpreting Task-fMRI Biomarkers. International Conference on Medical Image Computing and Computer Assisted Intervention, Shenzhen, October 2019 (Poster presentation).
22. Zhuang J, **Dvornek NC**, Li X, Ventola P, Duncan JS. Invertible Network for Classification and Biomarker Selection for ASD. International Conference on Medical Image Computing and Computer Assisted Intervention, Shenzhen, October 2019 (Poster presentation).
23. Yang J, **Dvornek NC**, Zhang F, Chapiro J, Lin M, Duncan JS. Unsupervised Domain Adaptation via Disentangled Representations: Application to Cross-Modality Liver Segmentation. International Conference on Medical Image Computing and Computer Assisted Intervention, Shenzhen, October 2019 (Poster presentation).
24. **Dvornek NC**, Li X, Zhuang J, Duncan JS. Jointly Discriminative and Generative Recurrent Neural Networks for Learning from fMRI. 10th International Workshop on Machine Learning in Medical Imaging, Shenzhen, October 2019 (Oral presentation).

25. Guo Y, **Dvornek N**, Lu Y, Tsai YJ, Hamill J, Casey M, Liu C. Deep learning based respiratory pattern classification and applications in PET/CT motion correction. IEEE Nuclear Science Symposium and Medical Imaging Conference, Manchester, October 2019 (Poster presentation).
26. Yang J, **Dvornek NC**, Zhang F, Zhuang J, Chapiro J, Lin M, Duncan JS. Domain-Agnostic Learning with Anatomy-Consistent Embedding for Cross-Modality Liver Segmentation. IEEE International Conference on Computer Vision Workshop, Visual Recognition for Medical Images, Seoul, October 2019 (Poster Presentation).
27. Zhuang J, Yang J, Gu L, **Dvornek N**. Shelfnet for fast semantic segmentation. IEEE International Conference on Computer Vision Workshop on Computer Vision for Road Scene Understanding and Autonomous Driving, Seoul, October 2019 (Poster Presentation).
28. Zhuang J, **Dvornek NC**, Li X, Yang J, Duncan JS. Decision Explanation and Feature Importance for Invertible Networks. IEEE International Conference on Computer Vision Workshop on Interpreting and Explaining Visual Artificial Intelligence Models, Seoul, November 2019 (Oral Presentation).
29. Yang J, **Dvornek NC**, Zhang F, Chapiro J, Lin M, Abajian A, Duncan JS. Hepatocellular Carcinoma Intra-arterial Treatment Response Prediction for Improved Therapeutic Decision-Making. Medical Imaging Meets NeurIPS (NeurIPS Workshop), Vancouver, December 2019 (Poster presentation)
30. Li X, **Dvornek NC**, Zhuang J, Ventola P, Duncan J. Graph embedding using Infomax for ASD classification and brain functional difference detection. SPIE Medical Imaging, Houston, February 2020 (Oral presentation).
31. **Dvornek NC**, Ventola P, Duncan JS. Estimating Reproducible Functional Networks Associated with Task Dynamics Using Unsupervised LSTMs. 17th IEEE International Symposium on Biomedical Imaging, Virtual, April 2020 (Video presentation).
32. Drapalik K, Williams MJ, Sukhodulsky D, **Dvornek N**, Duncan J, Ventola P. Translating Neuroprediction into Precision Medicine via Brain Priming. International Society for Autism Research Annual Meeting, Virtual, June 2020 (Poster presentation).
33. Li X, Gu Y, **Dvornek N**, Duncan J. Boosting Multi-site fMRI Analysis Using Privacy-preserving Federated Learning. Organization for Human Brain Mapping Annual Meeting, Virtual, June 2020 (Poster presentation).
34. Zhuang J, **Dvornek N**, Li X, Tatikonda S, Papademetris X, Duncan J. Adaptive Checkpoint Adjoint Method for Gradient Estimation in Neural ODE. International Conference on Machine Learning, Virtual, July 2020 (Video presentation).
35. Li X, Zhou Y, **Dvornek NC**, Gu Y, Ventola P, Duncan JS. Efficient Shapley Explanation For Features Importance Estimation Under Uncertainty. International Conference on Medical Image Computing and Computer Assisted Intervention, Virtual, October 2020 (Short oral / video / poster presentation).
36. Li X, Zhou Y, **Dvornek NC**, Zhang M, Zhuang J, Ventola P, Duncan JS. Pooling Regularized Graph Neural Network for fMRI Biomarker Analysis. International Conference on Medical Image Computing and Computer Assisted Intervention, Virtual, October 2020 (Short oral / video / poster presentation).
37. Yang, J, Li, X, Pak, D, **Dvornek, N**, Chapiro, J, Lin, M, Duncan, J. Cross-Modality Segmentation by Self-Supervised Semantic Alignment in Disentangled Content Space. 2nd MICCAI Workshop on Domain Adaptation and Representation Transfer, Virtual, October 2020 (Oral / video / poster presentation).
38. **Dvornek NC**, Li X, Zhuang J, Ventola P, Duncan JS. Demographic-Guided Attention in Recurrent Neural Networks for Modeling Neuropathophysiological Heterogeneity. 11th International Workshop on Machine Learning in Medical Imaging (MICCAI workshop), Virtual, October 2020 (Short oral / video presentation).
39. Zhuang, J, Tang, T, Ding, Y, Tatikonda, SC, **Dvornek, N**, Papademetris, X and Duncan, J. AdaBelief Optimizer: Adapting Stepsizes by the Belief in Observed Gradients. Conference on Neural Information Processing Systems, Virtual, December 2020 (Spotlight (oral) presentation).

40. Wang S and **Dvornek NC.** A Metamodel Structure for Regression Analysis: Application to Prediction of Autism Spectrum Disorder Severity. IEEE International Symposium on Biomedical Imaging, Virtual, April 2021 (Poster presentation).
41. Zhuang J, **Dvornek NC**, Duncan JS. MALI: A memory efficient and reverse accurate integrator for Neural ODEs. International Conference on Learning Representations, Virtual, May 2021 (Poster presentation).
42. Guo X, Wu J, Chen MK, Onofrey J, Pang Y, Pigg D, Casey M, **Dvornek N**, Liu C. Inter-pass motion correction for whole-body dynamic parametric PET imaging. Society of Nuclear Medicine & Molecular Imaging Annual Meeting, Virtual, June 2021 (Poster presentation).
43. Zhuang J, **Dvornek N**, Tatikonda S, Papademetris X, Ventola P, Duncan JS. Multiple-shooting adjoint method for whole-brain dynamic causal modeling. Information Processing in Medical Imaging, Virtual, June 2021 (Oral presentation).
44. Guo X, Zhou B, Pigg D, Casey ME, Liu C, **Dvornek NC**. Inter-frame motion correction for whole-body parametric imaging using long short-term memory in a deep convolutional framework. IEEE Nuclear Science Symposium and Medical Imaging Conference, Virtual, October 2021 (Mini-oral presentation, 2nd Best Poster Award)
45. Zhuang J, Ding Y, Tang T, **Dvornek N**, Tatikonda SC, Duncan J. Momentum Centering and Asynchronous Update for Adaptive Gradient Methods. Conference on Neural Information Processing Systems, Virtual, December 2021 (Poster presentation).

Professional Service

***Journals*:**

Editorial Boards

2021-present Associate Editor, *Frontiers in Neuroscience*, Brain Imaging Methods Section
2021-2022 Guest Associate Editor, *Medical Physics*

Reviewer

Journal of Neural Engineering, Frontiers in Neuroscience, *Frontiers in Human Neuroscience*, *PLOS ONE, Medical Image Analysis, Frontiers in Computational Neuroscience, Journal of Magnetic Resonance Imaging, IEEE Transactions on Medical Imaging, Journal of Mathematical Imaging and Vision*

***Professional Organizations*:**

Medical Image Computing and Computer Assisted Intervention (MICCAI) Society

2011-present Reviewer, MICCAI Conference
2016-present Member
2021 Program Committee Member, Workshop on Data Augmentation, Labeling, and Imperfections (DALI)
2022 Organizing Committee Member, Workshop on Machine Learning in Clinical Neuroimaging (MLCN)

Institute of Electrical and Electronics Engineers (IEEE)

2013-present Reviewer, IEEE International Symposium on Biomedical Imaging (ISBI)
2022 Reviewer, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)

Medical Imaging with Deep Learning (MIDL)

2019 Area Chair, MIDL Conference
2020-2021 Reviewer, MIDL Conference
2021 Session Chair, MIDL Conference
2022-present Technical Committee Member, MIDL Conference

Neural Information Processing Systems (NeurIPS)
2019, 2021 Program Committee Member, Medical Imaging meets NeurIPS (NeurIPS Workshop)
2021-present Reviewer, NeurIPS Conference

International Machine Learning Society
2021 Organizing Committee Member, Interpretable Machine Learning in Healthcare (ICML Workshop)

International Conference on Learning Representations (ICLR)
2021 Reviewer, ICLR 2022

***Yale University/Hospital System*:**

Departmental Committees
2017-2018 Member, Planning Committee for Division of Bioimaging Sciences Retreat 2018
2020 Co-organizer, BME Open House for Prospective Ph.D. Students Planning Committee
2021-2022 Member, Neuroengineering Faculty Search Committee (Dept. of Biomedical Engineering)

Public Service / Media Presence:

Media Presence:
2021 Guest Lecturer, Introduction to Deep Learning, Introduction to Medical Software Course, Coursera, https://www.coursera.org/learn/introduction-to-medical-software

Bibliography:

Peer-Reviewed Original Research

1. **Chitphakdithai N**, Duncan JS. Pairwise Registration of Images with Missing Correspondences Due to Resection. Proc IEEE Int Symp Biomed Imaging. 2010;2010:1025-8. doi: 10.1109/ISBI.2010.5490164. PMID: 21804926; PMCID: PMC3146293.
2. **Chitphakdithai N**, Duncan JS. Non-rigid registration with missing correspondences in preoperative and postresection brain images. Med Image Comput Comput Assist Interv. 2010;13(Pt 1):367-74. doi: 10.1007/978-3-642-15705-9_45. PMID: 20879252; PMCID: PMC3031159.
3. **Chitphakdithai N**, Vives KP, Duncan JS. Registration of Brain Resection Mri with Intensity and Location Priors. Proc IEEE Int Symp Biomed Imaging. 2011;2011:1520-3. Epub 20110609. doi: 10.1109/ISBI.2011.5872690. PMID: 30774752; PMCID: PMC6376974.
4. **Chitphakdithai N**, Chiang VL, Duncan JS. Non-rigid registration of longitudinal brain tumor treatment MRI. Annu Int Conf IEEE Eng Med Biol Soc. 2011;2011:4893-6. doi: 10.1109/IEMBS.2011.6091212. PMID: 22255435; PMCID: PMC3753806.
5. **Chitphakdithai N**, Chiang VL, Duncan JS. Tracking Metastatic Brain Tumors in Longitudinal Scans via Joint Image Registration and Labeling. Spatiotemporal Image Anal Longitud Time Ser Image Data (2012). 2012;7570:124-36. doi: 10.1007/978-3-642-33555-6_11. PMID: 31187098; PMCID: PMC6559745.
6. **Dvornek NC**, Sigworth FJ, Tagare HD. SubspaceEM: A fast maximum-a-posteriori algorithm for cryo-EM single particle reconstruction. J Struct Biol. 2015;190(2):200-14. Epub 20150331. doi: 10.1016/j.jsb.2015.03.009. PMID: 25839831; PMCID: PMC4453989.
7. Venkataraman A, Yang DY, **Dvornek N**, Staib LH, Duncan JS, Pelphrey KA, Ventola P. Pivotal response treatment prompts a functional rewiring of the brain among individuals with autism spectrum disorder. Neuroreport. 2016;27(14):1081-5. doi: 10.1097/WNR.0000000000000662. PMID: 27532879; PMCID: PMC5007196.
8. **Dvornek NC**, Yang D, Venkataraman A, Ventola P, Staib LH, Pelphrey KA, Duncan JS. Prediction of autism treatment response from baseline fmri using random forests and tree bagging. Workshop on Multimodal Learning for Clinical Decision Support. 2016.

9. Yang D, Pelphrey KA, Sukhodolsky DG, Crowley MJ, Dayan E, **Dvornek NC**, Venkataraman A, Duncan J, Staib L, Ventola P. Brain responses to biological motion predict treatment outcome in young children with autism. Translational Psychiatry. 2016;6(11):e948. Epub 20161115. doi: 10.1038/tp.2016.213. PMID: 27845779; PMCID: PMC5314125.
10. **Dvornek NC**, Ventola P, Pelphrey KA, Duncan JS. Identifying Autism from Resting-State fMRI Using Long Short-Term Memory Networks. Mach Learn Med Imaging. 2017;10541:362-70. Epub 20170907. doi: 10.1007/978-3-319-67389-9_42. PMID: 29104967; PMCID: PMC5669262.
11. Zhuang J, **Dvornek NC**, Li X, Yang D, Ventola P, Duncan JS. Prediction of Pivotal Response Treatment Outcome with Task Fmri Using Random Forest and Variable Selection. Proc IEEE Int Symp Biomed Imaging. 2018;2018:97-100. Epub 20180524. doi: 10.1109/ISBI.2018.8363531. PMID: 33014282; PMCID: PMC7532925.
12. **Dvornek NC**, Ventola P, Duncan JS. Combining Phenotypic and Resting-State Fmri Data for Autism Classification with Recurrent Neural Networks. Proc IEEE Int Symp Biomed Imaging. 2018;2018:725-8. Epub 20180524. doi: 10.1109/ISBI.2018.8363676. PMID: 30288208; PMCID: PMC6166875.
13. Li X, **Dvornek NC**, Papademetris X, Zhuang J, Staib LH, Ventola P, Duncan JS. 2-Channel Convolutional 3d Deep Neural Network (2cc3d) for Fmri Analysis: Asd Classification and Feature Learning. Proc IEEE Int Symp Biomed Imaging. 2018;2018:1252-5. Epub 20180524. doi: 10.1109/isbi.2018.8363798. PMID: 32983370; PMCID: PMC7519578.
14. Li X, **Dvornek NC**, Zhuang J, Ventola P, Duncan JS. Brain Biomarker Interpretation in ASD Using Deep Learning and fMRI. Med Image Comput Comput Assist Interv. 2018;11072:206-14. Epub 20180913. doi: 10.1007/978-3-030-00931-1_24. PMID: 32984865; PMCID: PMC7519581.
15. **Dvornek NC**, Yang D, Ventola P, Duncan JS. Learning Generalizable Recurrent Neural Networks from Small Task-fMRI Datasets. Med Image Comput Comput Assist Interv. 2018;11072:329-37. Epub 20180913. doi: 10.1007/978-3-030-00931-1_38. PMID: 30873514; PMCID: PMC6411297.
16. Zhuang J, **Dvornek NC**, Li X, Ventola P, Duncan JS. Prediction of severity and treatment outcome for ASD from fMRI. Predict Intell Med. 2018;11121:9-17. Epub 20180913. doi: 10.1007/978-3-030-00320-3_2. PMID: 32984867; PMCID: PMC7513883.
17. Zhuang J, **Dvornek NC**, Zhao Q, Li X, Ventola P, Duncan JS. Prediction of Treatment Outcome for Autism from Structure of the Brain Based on Sure Independence Screening. Proceedings IEEE International Symposium on Biomedical Imaging. 2019;2019:404-8. Epub 20190711. doi: 10.1109/ISBI.2019.8759156. PMID: 32256966; PMCID: PMC7119202.
18. Li X, **Dvornek NC**, Zhou Y, Zhuang J, Ventola P, Duncan JS. Efficient Interpretation of Deep Learning Models Using Graph Structure and Cooperative Game Theory: Application to ASD Biomarker Discovery. Inf Process Med Imaging. 2019;11492:718-30. Epub 20190522. doi: 10.1007/978-3-030-20351-1_56. PMID: 32982121; PMCID: PMC7519580.
19. **Dvornek NC**, Li X, Zhuang J, Duncan JS. Jointly Discriminative and Generative Recurrent Neural Networks for Learning from fMRI. Mach Learn Med Imaging. 2019;11861:382-90. Epub 20191010. doi: 10.1007/978-3-030-32692-0_44. PMID: 32274470; PMCID: PMC7143657.
20. Li X, **Dvornek NC**, Zhou Y, Zhuang J, Ventola P, Duncan JS. Graph Neural Network for Interpreting Task-fMRI Biomarkers. Med Image Comput Comput Assist Interv. 2019;11768:485-93. Epub 20191010. doi: 10.1007/978-3-030-32254-0_54. PMID: 32984866; PMCID: PMC7519579.
21. Zhuang J, **Dvornek NC**, Li X, Ventola P, Duncan JS. Invertible Network for Classification and Biomarker Selection for ASD. Med Image Comput Comput Assist Interv. 2019;11766:700-8. Epub 20191010. doi: 10.1007/978-3-030-32248-9_78. PMID: 32274471; PMCID: PMC7144624.
22. Yang J, **Dvornek NC**, Zhang F, Chapiro J, Lin M, Duncan JS. Unsupervised Domain Adaptation via Disentangled Representations: Application to Cross-Modality Liver Segmentation. Med Image Comput Comput Assist Interv. 2019;11765:255-63. Epub 20191010. doi: 10.1007/978-3-030-32245-8_29. PMID: 32377643; PMCID: PMC7202929.
23. Yang J, **Dvornek NC**, Zhang F, Zhuang J, Chapiro J, Lin M, Duncan JS. Domain-Agnostic Learning with Anatomy-Consistent Embedding for Cross-Modality Liver Segmentation. IEEE Int Conf Comput Vis Workshops. 2019;2019. Epub 20200305. doi: 10.1109/iccvw.2019.00043. PMID: 34676308; PMCID: PMC8528125.

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