**Cluster 0:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting brain tumor progression via multiparametric image analysis and modelin | UNIVERSITY OF PENNSYLVANIA | R01 | 2018 | 0.17 |
| MDCT Quantification of hepatic tumor viability for assessment of cancer therapy | IQ MEDICAL IMAGING, LLC | R42 | 2019 | 0.13 |
| Quantitative Image Modeling for Brain Tumor Analysis and Tracking | OLD DOMINION UNIVERSITY | R01 | 2019 | 0.13 |
| Multiresolution-fractal modeling for brain tumor detection | UNIVERSITY OF MEMPHIS | R15 | 2010 | 0.13 |
| Quantitative Multimodal Image Guidance for Improved Liver Cancer Treatment | YALE UNIVERSITY | R01 | 2020 | 0.13 |

**Cluster 1:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Tree Ensemble Regression and Classification Methods | INSIGHTFUL CORPORATION | R43 | 2004 | 0.008 |
| WAVELET-BASED AUTOMATED CHROMOSOME IDENTIFICATION | ADVANCED DIGITAL IMAGING RESEARCH, LLC | R44 | 2000 | 0.0075 |
| Integrated Assessment of Corneal Form and Function | LOUISIANA STATE UNIV HSC NEW ORLEANS | R01 | 2006 | 0.007 |
| Automatic Counting System for Items Used in Surgery | ROBOTIC SURGICAL TECH, INC. | R43 | 2004 | 0.0068 |
| ARTIFICIAL INTELLIGENCE METHODS FOR CRYSTALIZATION | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2001 | 0.0047 |

**Cluster 2:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Peptide Biomarker Discovery by Mass Spectrometry for Early Detection of Liver Can | GEORGETOWN UNIVERSITY | R21 | 2009 | 0.044 |
| Machine Learning Tools for Discovery and Analysis of Active Metabolic Pathways | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.043 |
| Analysis of LC-MS data to identify peptide and glycan biomarkers for hepatocellul | GEORGETOWN UNIVERSITY | R01 | 2014 | 0.039 |
| Ion mobility based informatics and visualization strategies in support of metabolomics | VANDERBILT UNIVERSITY | R03 | 2017 | 0.034 |
| Advanced Computational Approaches for NMR Data-mining | BAYLOR COLLEGE OF MEDICINE | R01 | 2020 | 0.034 |

**Cluster 3:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Assessing ASL CBF as a biomarker for early Alzheimer's disease detection and disease progression | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2020 | 0.27 |
| Using connectomics to characterize risk for Alzheimer's Disease | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R01 | 2020 | 0.24 |
| Manifold-valued statistical models for longitudinal morphometic analysis in preclinical Alzheimer's disease (AD) | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2018 | 0.23 |
| Computational Prediction and Functional Validation of Novel Risk Loci of Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.23 |
| Temporal Trends, Novel Imaging and Molecular Characterization of Preclinical and Clinical Alzheimer's Disease in the Framingham Cohorts | UNIVERSITY OF TEXAS HLTH SCIENCE CENTER | R01 | 2020 | 0.23 |

**Cluster 4:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Decrypting Variants of Uncertain Significance in Long-QT Syndrome | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2017 | 0.16 |
| Micropublications for Automating Genome Sequence Variant Interpretation from Medical Literature | GENOMENON, INC. | R43 | 2019 | 0.16 |
| Regulation of mRNA splicing by intronic genetic variants | INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS | R01 | 2018 | 0.14 |
| Clinically Relevant Genome Variation Database | STANFORD UNIVERSITY | U01 | 2016 | 0.14 |
| Predicting causal non-coding variants in a founder population | STANFORD UNIVERSITY | R01 | 2017 | 0.14 |

**Cluster 5:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Training and Fidelity Model to Move and Scale Evidence-based Dementia Care and Caregiver Support Programs into Practice: The Case for COPE in PACE service settings | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.084 |
| Changing Talk Online (CHATO): A Pragmatic Trial to Reduce Behavioral Symptoms in Dementia Care | UNIVERSITY OF KANSAS MEDICAL CENTER | R61 | 2019 | 0.081 |
| CATcare: Cognitive Assistive Technology for Dementia Homecare | OKLAHOMA STATE UNIVERSITY STILLWATER | R15 | 2019 | 0.072 |
| SPEEKO for Elderspeak: A Self-Monitoring App to Improve Communication and Reduce Behavioral Symptoms in Care for Persons with Alzheimer's Disease and Other Dementias | UNIVERSITY OF KANSAS MEDICAL CENTER | R21 | 2020 | 0.072 |
| Planning Changing Talk Online (CHATO): a Clinical Trial Testing the Effects of Online Communication Training for Nursing Home Staff on Behavioral and Psychological Symptoms of Residents with Dementia | UNIVERSITY OF KANSAS MEDICAL CENTER | R34 | 2018 | 0.071 |

**Cluster 6:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Quantitative Parenchyma Descriptor as an Imaging Biomarker of Breast Cancer Risk | UNIVERSITY OF MICHIGAN AT ANN ARBOR | U01 | 2019 | 0.25 |
| A Noninvasive, Precision Medicine Approach to Improve Breast Cancer Screening Using Cell-free RNA from Saliva. | PRIME GENOMICS, INC. | R43 | 2019 | 0.25 |
| Informatics Techniques to Optimize Mammography for Aging Populations | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2016 | 0.24 |
| Background parenchymal uptake (BPU) on molecular breast imaging as a novel breast cancer risk factor | MAYO CLINIC ROCHESTER | R21 | 2016 | 0.24 |
| Breast Cancer Risk Stratification with Resonant Electrical Impedance Spectroscopy | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R33 | 2010 | 0.22 |

**Cluster 7:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biosignatures of Treatment Remission in Major Depression | COLUMBIA UNIVERSITY HEALTH SCIENCES | U01 | 2015 | 0.12 |
| Predicting Internet-Based Treatment Response for Major Depressive Disorder | MCLEAN HOSPITAL | R56 | 2017 | 0.1 |
| Leveraging Artificial Intelligence for the assessment of severity of depressive symptoms | MASSACHUSETTS GENERAL HOSPITAL | R01 | 2020 | 0.094 |
| Predicting the onset of depression in at-risk adolescents from endophenotype profiles | MCLEAN HOSPITAL | R01 | 2020 | 0.092 |
| LifeSense: Transforming Behavioral Assessment of Depression Using Personal Sensing Technology | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2020 | 0.086 |

**Cluster 8:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Post-natal development of high-level visual representation in primates | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R21 | 2018 | 0.061 |
| Learning and updating internal visual models | ALBERT EINSTEIN COLLEGE OF MEDICINE, INC | R01 | 2017 | 0.057 |
| Neural and Behavioral Interactions Between Attention, Perception, and Learning | PRINCETON UNIVERSITY | R01 | 2015 | 0.055 |
| Imaging Functional Connectivity in Visual Cortex | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2020 | 0.054 |
| ANALYSIS OF HIPPOCAMPAL ENCODING OF BEHAVIORAL DECISIONS | WAKE FOREST UNIVERSITY HEALTH SCIENCES | R01 | 2004 | 0.054 |

**Cluster 9:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A New Hip Fracture Risk Prediction Tool Based on Common Predictors and Hip Geomer | UNIVERSITY OF ARIZONA | R21 | 2012 | 0.03 |
| 2/5 CAPER Computerized assessment of psychosis risk | NORTHWESTERN UNIVERSITY | R01 | 2020 | 0.029 |
| Optical Body Composition and Health Assessment | UNIVERSITY OF HAWAII AT MANOA | R01 | 2020 | 0.029 |
| Understanding Severe Maternal Morbidity: Predictors, Trends, and Disparities | STANFORD UNIVERSITY | F32 | 2018 | 0.028 |
| Improving the Accuracy of ASCVD Risk Estimation Using Population-Level EHR and Genetic Data | BROWN UNIVERSITY | F30 | 2020 | 0.028 |

**Cluster 10:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Cerebellar connectivity and error-based learning in infants at risk for autism | WASHINGTON UNIVERSITY | F31 | 2020 | 0.25 |
| Investigating quantitative signatures of autism in toddlers | COLUMBIA UNIVERSITY TEACHERS COLLEGE | R01 | 2020 | 0.25 |
| Novel video-based approaches for detection of autism risk in the first year of life | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.24 |
| Neural Correlates of Biological Motion Perception in Children with ASD | SEATTLE CHILDREN'S HOSPITAL | K01 | 2018 | 0.23 |
| Harmonization for multisite Connectomics: parsing heterogeneity and creating markers in ASD | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.23 |

**Cluster 11:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Statistical approaches to linguistic pattern learning | GEORGETOWN UNIVERSITY | R01 | 2019 | 0.21 |
| Statistical Learning in Language Acquisition | UNIVERSITY OF WISCONSIN-MADISON | R37 | 2019 | 0.21 |
| Distributional Learning in Children with Language Impairment | UNIVERSITY OF IOWA | F31 | 2017 | 0.2 |
| Structural and Semantic Cues for the Acquisition of Linguistic Regularties | UNIVERSITY OF WISCONSIN-MADISON | F31 | 2011 | 0.19 |
| Neurocognitive determinants of adolescent second language literacy development | HASKINS LABORATORIES, INC. | R01 | 2015 | 0.18 |

**Cluster 12:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multimodal image registration by proxy image synthesis | JOHNS HOPKINS UNIVERSITY | R01 | 2015 | 0.096 |
| Continued Development of CellProfiler Cell Image Analysis Software | BROAD INSTITUTE, INC. | R01 | 2016 | 0.084 |
| Extracting rich information from biological images | BROAD INSTITUTE, INC. | R35 | 2018 | 0.079 |
| Continued development of CellProfiler cell image analysis software | BROAD INSTITUTE, INC. | R01 | 2013 | 0.079 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics Tool for Mus | UNIVERSITY OF FLORIDA | R01 | 2018 | 0.078 |

**Cluster 13:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Development of epidermal, wireless sensor tattoos for non-invasive monitoring of biofluid composition | TUFTS UNIVERSITY MEDFORD | F32 | 2016 | 0.055 |
| Enabling Population-Scale Physical Activity Measurement on Common Mobile Phones | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | U01 | 2010 | 0.052 |
| Evaluating and Improving Assistive Robotic Devices Continuously and in Real-time | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R03 | 2019 | 0.047 |
| Multi-omic Subtyping of Chronic Obstructive Pulmonary Disease | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.046 |
| Dense Life-log Health Analytics from Wearable Sensors using Functional Analysis and Riemannian Geometry | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R01 | 2020 | 0.046 |

**Cluster 14:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multimodal, integrated analysis of neural activity and naturalistic social behavior in freely moving mice | CALIFORNIA INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.1 |
| From Cells to Societies: Mechanisms by Which Microbial Parasites Control Host Phenotypes | PENNSYLVANIA STATE UNIVERSITY-UNIV PARK | R01 | 2020 | 0.095 |
| Development of an Integrated System for Monitoring Home-Cage Behavior in Non-Human Primates | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.082 |
| A new paradigm for quantifying animal behavior in a model genetic system | PRINCETON UNIVERSITY | R01 | 2014 | 0.078 |
| Behavioral, Physiological, and Quantitative Models of Pro-Social Behavior | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2018 | 0.074 |

**Cluster 15:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Novel deep learning strategy to better predict pharmacological properties of candidate drugs and focus discovery efforts | COLLABORATIVE DRUG DISCOVERY, INC. | R44 | 2020 | 0.1 |
| An integrative multi-phenotype pipeline for drug evaluation, pharmacogenomics, and attribute prediction | PHENVOGEN, LLC | R41 | 2017 | 0.098 |
| HIGH THROUGHPUT IN VIVO DRUG DISCOVERY-PHASE 1 | PSYCHOGENICS, INC. | R43 | 2005 | 0.096 |
| A systems analysis of drug tolerance in Mycobacterium tuberculosis | INSTITUTE FOR SYSTEMS BIOLOGY | R01 | 2020 | 0.095 |
| An Integrative Approach to Drug Repositioning Using Decision Tree Based Machine Learning | WEILL MEDICAL COLL OF CORNELL UNIV | F31 | 2020 | 0.091 |

**Cluster 16:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Deep learning for protein subcellular/sub-organelle localizations and localization motifs | UNIVERSITY OF MISSOURI-COLUMBIA | R21 | 2019 | 0.12 |
| Mass Spectrometry Measurements for Complex PTMs | UNIVERSITY OF KANSAS LAWRENCE | R35 | 2020 | 0.11 |
| Alignment-independent Classification of Proteins | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2007 | 0.11 |
| COMPARISON OF PROTEIN SEQUENCES & STRUCTURES | UNIVERSITY OF VIRGINIA CHARLOTTESVILLE | R01 | 2004 | 0.11 |
| Proteomics of ciliopathy protein complexes | UNIVERSITY OF TEXAS, AUSTIN | F31 | 2019 | 0.1 |

**Cluster 17:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Big Data analytics of HIV treatment gaps in South Carolina: Identification and prediction | UNIVERSITY OF SOUTH CAROLINA AT COLUMBIA | R01 | 2020 | 0.23 |
| Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa | STANFORD UNIVERSITY | R01 | 2020 | 0.22 |
| Developing an artificial intelligence-based mHealth intervention to increase HIV testing in Malaysia | YALE UNIVERSITY | R21 | 2020 | 0.22 |
| Gene Network Identification and Integration (GNetii) Approach to Understanding the Biology Underlying HIV and Drug Abuse. | RESEARCH TRIANGLE INSTITUTE | R01 | 2020 | 0.22 |
| Developing an Artificial Intelligence Chatbot to Promote HIV Testing | YALE UNIVERSITY | R21 | 2020 | 0.21 |

**Cluster 18:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Automated quantitative CT imaging of epicardial adipose tissue and risk of cardiac events | CEDARS-SINAI MEDICAL CENTER | R01 | 2019 | 0.15 |
| Machine Learning and Deformable Model-based 4D Characterization of Cardiac Dyssynchrony from MRI | RUTGERS, THE STATE UNIV OF N.J. | R01 | 2020 | 0.14 |
| Deviceless and Autonomous Prospective Cardiac CT Triggering | GENERAL ELECTRIC GLOBAL RESEARCH CTR | R01 | 2020 | 0.13 |
| Comprehensive Cardiac Structure-Function Analysis in Heart Transplantation | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2018 | 0.13 |
| Cloud-based High-throughput Acquisition and Analytics of Zebrafish Electrocardiogram for Cardiac Studies and Drug Development | SENSORIIS, INC. | R44 | 2020 | 0.11 |

**Cluster 19:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Annotation, development and evaluation for clinical information extraction | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2013 | 0.021 |
| Annotation, development and evaluation for clinical information extraction (transfer) | BOSTON CHILDREN'S HOSPITAL | R01 | 2013 | 0.021 |
| Text Mining Pipeline to Accelerate Systematic Reviews in Evidence-Based Medicine | UNIVERSITY OF ILLINOIS AT CHICAGO | R01 | 2019 | 0.019 |
| Hybrid Approaches to Optimizing Evidence Synthesis via Machine Learning and Crowdsourcing | NORTHEASTERN UNIVERSITY | R03 | 2016 | 0.011 |
| Access to distributed de-identified imaging data | HX TECHNOLOGIES, INC. | R43 | 2004 | 0.011 |

**Cluster 20:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Effect of complex mixtures on oxidative stress and cognition in children | STATE UNIVERSITY OF NEW YORK AT BUFFALO | R01 | 2020 | 0.047 |
| Human Exposure and Vulnerability to Manganese Contaminated Groundwater | UNIVERSITY OF CALIFORNIA RIVERSIDE | R21 | 2020 | 0.043 |
| A DATA SCIENCE APPROACH TO AIR TOXICS AND CHILDREN'S ENVIRONMENTAL HEALTH | COLUMBIA UNIVERSITY HEALTH SCIENCES | R00 | 2020 | 0.043 |
| A Data Science Approach to Air Toxics and Children's Environmental Health | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | K99 | 2018 | 0.043 |
| Complex Mixtures of Endocrine Disrupting Chemicals in Relation to Cognitive Development | COLUMBIA UNIVERSITY HEALTH SCIENCES | F31 | 2020 | 0.041 |

**Cluster 21:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Real-Time Mobile Cognitive Behavioral Intervention for Serious Mental Illness | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.088 |
| Assisted Identification and Navigation of Early Mental Health Symptoms in Youth | KAISER FOUNDATION RESEARCH INSTITUTE | R56 | 2018 | 0.081 |
| Estimating Population Effects in Mental Health Research Using Meta-Analysis | DUKE UNIVERSITY | R00 | 2020 | 0.079 |
| Understanding Response Shift in Acute Respiratory Distress Syndrome (ARDS) survivors | JOHNS HOPKINS UNIVERSITY | K01 | 2020 | 0.074 |
| A Real-Time Computational System for Detecting ARDS Using Ventilator Waveform Data | UNIVERSITY OF CALIFORNIA AT DAVIS | F31 | 2020 | 0.065 |

**Cluster 22:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Reactome: An Open Knowledgebase of Human Pathways | ONTARIO INSTITUTE FOR CANCER RESEARCH | U41 | 2020 | 0.12 |
| Genomic Database for the Yeast Saccharomyces | STANFORD UNIVERSITY | U41 | 2015 | 0.11 |
| CSHL Computational and Comparative Genomics Course | COLD SPRING HARBOR LABORATORY | R25 | 2019 | 0.094 |
| BioMediator: Biologic Data Integration& Analysis System | UNIVERSITY OF WASHINGTON | R01 | 2005 | 0.084 |
| BioMediator: Biologic Data Integration & Analysis System | UNIVERSITY OF WASHINGTON | R01 | 2003 | 0.084 |

**Cluster 23:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Leveraging National Sleep Research Resource Data for Personalized Sleep Profiling | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2020 | 0.38 |
| Sleep Health Profiles in Middle-aged Workers in Relation to Cardiovascular and Cognitive Health | UNIVERSITY OF SOUTH FLORIDA | R56 | 2020 | 0.36 |
| Sleep and Cardiometabolic Health Disparities at the US/Mexico Border: The Nogales Cardiometabolic Health and Sleep (NoCHeS) Study | UNIVERSITY OF ARIZONA | R01 | 2020 | 0.36 |
| The Health and Behavioral Effects of Sleep Deprivation Among the Urban Poor in India | UNIVERSITY OF PENNSYLVANIA | K01 | 2020 | 0.35 |
| Administrative Supplement for Sleep and Cardiometabolic Health Disparities at the US/Mexico Border: The Nogales Cardiometabolic Health and Sleep (NoCHeS) Study | UNIVERSITY OF ARIZONA | R01 | 2019 | 0.35 |

**Cluster 24:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting Self-Harm, Suicide Attempt, and Suicidal Death using Longitudinal EHR, Claims and Mortality Data | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.42 |
| Predictive modeling: the role of opioid use in suicide risk | KAISER FOUNDATION RESEARCH INSTITUTE | R01 | 2020 | 0.41 |
| Digital Monitoring of Agitation for Short-Term Suicide Risk Prediction | MASSACHUSETTS GENERAL HOSPITAL | K23 | 2020 | 0.39 |
| Decision Processes of Late-Life Suicide | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2018 | 0.38 |
| Innovations in Suicide Prevention Research (INSPIRE) | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.38 |

**Cluster 25:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Genome-Wide Association Analysis of Bladder Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | U01 | 2012 | 0.054 |
| Modeling Dimensionality and Genetic Heterogeneity in Schizophrenia | UNIVERSITY OF UTAH | K01 | 2019 | 0.049 |
| Machine learning to identify predictive SNPs and complex interaction effects | VIRGINIA POLYTECHNIC INST AND ST UNIV | R21 | 2010 | 0.048 |
| Quantitative Analysis Methods for Complex Trait Genetics | WASHINGTON UNIVERSITY | K01 | 2006 | 0.047 |
| Integrative Analysis of Genomic Risk Factors in Juvenile Idiopathic Arthritis | UNIVERSITY OF PENNSYLVANIA | F30 | 2015 | 0.043 |

**Cluster 26:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| FACIAL EXPRESSION ANALYSIS BY IMAGE PROCESSING | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2005 | 0.3 |
| Automated Facial Expression Analysis for Research and Clinical Use | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2016 | 0.29 |
| Modeling the Nonmanuals in American Sign Language | PURDUE UNIVERSITY | R01 | 2008 | 0.29 |
| A Novel eFace System to Prevent the Risks of Facial Distortion after CMF Surgery | METHODIST HOSPITAL RESEARCH INSTITUTE | R01 | 2017 | 0.24 |
| Computational Methods for the Study of American Sign Language Nonmanuals Using Very Large Databases | OHIO STATE UNIVERSITY | R01 | 2019 | 0.23 |

**Cluster 27:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Natural Product-Drug Interaction Research: The Roadmap to Best Practices | WASHINGTON STATE UNIVERSITY | U54 | 2019 | 0.12 |
| Structure based prediction of the interactome | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2015 | 0.1 |
| Computational Studies of Virus-host Interactions Using Metagenomics Data and Applications | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2020 | 0.1 |
| A platform for mining, visualization and design of microbial interaction networks | BOSTON UNIVERSITY (CHARLES RIVER CAMPUS) | R01 | 2019 | 0.076 |
| National Center: Multi-Scale Study of Cellular Networks(RMI) | COLUMBIA UNIVERSITY HEALTH SCIENCES | U54 | 2010 | 0.076 |

**Cluster 28:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Institutional Collaboration between LSTM and CDC and Prevention on Malaria(U01) | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2015 | 0.48 |
| Institutional Research Collaboration between the Liverpool School of Tropical Medicine and the Centers for Department of Health and Human Services Centers for Disease Control and Prevention | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2019 | 0.46 |
| Institutional Collaboration Between Liverpool STM & CDC on Malaria | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2009 | 0.43 |
| Towards noninvasive diagnosis of malaria | CHILDREN'S HOSP OF PHILADELPHIA | R21 | 2020 | 0.4 |
| Malaria Operations Research to Improve Malaria Control and Reduce Morbidity and Mortality in Western Kenya | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2020 | 0.39 |

**Cluster 29:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Central glutamate signaling in postoperative pain regulation - Renewal | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | R01 | 2020 | 0.37 |
| A Multimodal Approach for Monitoring Prolonged Acute Pain in Neonates | UNIVERSITY OF SOUTH FLORIDA | R21 | 2020 | 0.37 |
| fMRI-based Biomarkers for Multiple Components of Pain | UNIVERSITY OF COLORADO | R01 | 2017 | 0.36 |
| Evaluation of Pain in Chronic Pancreatitis using the NAPS2 cohorts | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R21 | 2015 | 0.36 |
| Development of a Medical Device Utilizing an EEG-Based Algorithm for the Objective Quantification of Pain | PAINQX, INC. | R44 | 2020 | 0.36 |

**Cluster 30:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| ABCD-USA Consortium: Research Project | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2019 | 0.26 |
| ABCD-USA Consortium:Research Project | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | U01 | 2019 | 0.21 |
| Predicting Substance Use and Related Antisocial Behavior with Psychiatric, Socioeconomic, and Brain Measures in Women Offenders | UNIVERSITY OF NEW MEXICO | F31 | 2020 | 0.18 |
| ABCD-USA Consortium: Data Analysis Center | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U24 | 2019 | 0.16 |
| Using Machine Learning Approaches to Examine Emotion-Related Brain Activity and Substance Use Among Adolescents | GEORGE MASON UNIVERSITY | F31 | 2020 | 0.16 |

**Cluster 31:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Machine learning of physiological variables to predict diagnose and treat cardiorespiratory instability | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2019 | 0.036 |
| Predicting Urinary Continence Status with Sacral Neuromodulation and Botulinum Toxin Treatments | DUKE UNIVERSITY | K01 | 2020 | 0.033 |
| A new approach to predict graft outcome from histology in children undergoing kidney transplantation using machine learning methods | EMORY UNIVERSITY | R21 | 2020 | 0.029 |
| Leveraging Artificial Intelligence Solutions to Develop Digital Biomarkers for Precision Trauma Resuscitation | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | R01 | 2020 | 0.028 |
| Prediction of Major Adverse Kidney Events and Recovery (Pred-MAKER) in COVID-19 Patients | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2020 | 0.025 |

**Cluster 32:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Safety Promotion through Early Event Detection in the Elderly (SPEEDe) | VANDERBILT UNIVERSITY MEDICAL CENTER | R01 | 2020 | 0.12 |
| Mining health data for drug safety profiles | STANFORD UNIVERSITY | R01 | 2017 | 0.12 |
| Collaborative Research: Statistical algorithms for anomaly detection and patterns recognition in patient care and safety event reports | VIRGINIA POLYTECHNIC INST AND ST UNIV | R01 | 2019 | 0.11 |
| Collaborative Research: Statistical algorithms for anomaly detection and patterns recognition in patient care and safety event reports | NORTH CAROLINA STATE UNIVERSITY RALEIGH | R01 | 2020 | 0.11 |
| Transforming Patient Safety Event Data into Actionable Insights through Advanced Analytics | MEDSTAR HEALTH RESEARCH INSTITUTE | R01 | 2020 | 0.1 |

**Cluster 33:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computerized Radiographic Analysis of Bone Structure | UNIVERSITY OF CHICAGO | R01 | 2005 | 0.092 |
| Annotating Functional Sites in 3D Biological Structures | STANFORD UNIVERSITY | R01 | 2013 | 0.085 |
| Building protein structure models for intermediate resolution cryo-electron microscopy maps | PURDUE UNIVERSITY | R01 | 2020 | 0.082 |
| Collaborative Research: Mathematical Framework for Biomolecules: From Protein to RNA to Chromosomes | FLORIDA STATE UNIVERSITY | R01 | 2020 | 0.08 |
| New methods for computational modeling of RNA structures | UNIVERSITY OF MISSOURI-COLUMBIA | R35 | 2020 | 0.076 |

**Cluster 34:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Advanced Heart Failure: Epidemiology and Outcomes | MAYO CLINIC ROCHESTER | R01 | 2020 | 0.24 |
| Transition from Risk Factors to Early HF: Prevalence, Pathogenesis, and Phenomics | WAKE FOREST UNIVERSITY HEALTH SCIENCES | R01 | 2018 | 0.24 |
| Early Diagnosis of Heart Failure: A Perioperative Data-Driven Approach | UNIVERSITY OF MICHIGAN AT ANN ARBOR | K01 | 2020 | 0.23 |
| Genomic and Phenomic Architecture of Heart Failure | VANDERBILT UNIVERSITY MEDICAL CENTER | R01 | 2020 | 0.21 |
| Dynamic prediction of heart failure using real-time functional status and EHR data in the ambulatory setting | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | K23 | 2020 | 0.21 |

**Cluster 35:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Methods for Dynamic Causal Interactions in Human Brain Function and Dysfunction | STANFORD UNIVERSITY | R01 | 2018 | 0.057 |
| Quantifying the role of the connectome in resiliency to multiple sclerosis | WEILL MEDICAL COLL OF CORNELL UNIV | R21 | 2018 | 0.053 |
| Bayesian Methods for Localizing Dynamic Brain Activity and Epileptogenic Zones | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | F32 | 2011 | 0.052 |
| Integrating Multimodal Brain Imaging Data to Assess Subtle Cognitive Impairment | UNIVERSITY OF TEXAS DALLAS | R21 | 2013 | 0.052 |
| Motion Robust Mapping of Human Brain Functional Connectivity Changes in Utero | UNIVERSITY OF WASHINGTON | R01 | 2016 | 0.052 |

**Cluster 36:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A web-based craniofacial disease gene discovery tool | UNIVERSITY OF DELAWARE | R03 | 2016 | 0.08 |
| The Molecular Pathogenesis of Health Disparities in Inf\* | NORTHSHORE UNIVERSITY HEALTHSYSTEM | R01 | 2005 | 0.075 |
| PATHOGENESIS OF HEALTH DISPARITIES IN PRETERM BIRTH | EVANSTON NORTHWESTERN HEALTHCARE RES INS | R01 | 2001 | 0.074 |
| The Nomenclature of Human and Vertebrate Genes | EUROPEAN MOLECULAR BIOLOGY LABORATORY | U24 | 2020 | 0.073 |
| Revealing the transcriptomic basis of neuronal identity through functional meta-analysis | COLD SPRING HARBOR LABORATORY | R01 | 2020 | 0.071 |

**Cluster 37:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| From enrichment to insights | STANFORD UNIVERSITY | R01 | 2020 | 0.11 |
| Applying NLP to Free Text as an EHR Data Capture Method to Improve EHR Usability | ZYDOC MEDICAL TRANSCRIPTION, LLC | R43 | 2012 | 0.1 |
| Patient Medical History Representation, Extraction, and Inference from EHR Data | UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON | R01 | 2018 | 0.099 |
| National Infrastructure for Standardized and Portable EHR Phenotyping Algorithms | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.097 |
| Semi-supervised Algorithms for Risk Assessment with Noisy EHR Data | HARVARD SCHOOL OF PUBLIC HEALTH | R21 | 2020 | 0.089 |

**Cluster 38:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Integrative Cancer Genomics: Drivers, Pathways and Drugs | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2016 | 0.092 |
| Visualization and Analysis of the TCGA Data Using the UCSC Cancer Genomics Browse | UNIVERSITY OF CALIFORNIA SANTA CRUZ | R21 | 2009 | 0.09 |
| An integrated approach to dissect the functional network of large non-coding RNA | UNIVERSITY OF TX MD ANDERSON CAN CTR | R00 | 2017 | 0.084 |
| A Federated Galaxy for user-friendly large-scale cancer genomics research | OREGON HEALTH & SCIENCE UNIVERSITY | U24 | 2020 | 0.08 |
| Developing high-throughput genetic perturbation strategies for single cells in cancer organoids | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | U01 | 2020 | 0.078 |

**Cluster 39:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Reliable Seizure Prediction Using Physiological Signals and Machine Learning | MAYO CLINIC ROCHESTER | R01 | 2019 | 0.12 |
| Tracking pre-seizure dynamics to predict and control seizures | STANFORD UNIVERSITY | R01 | 2020 | 0.1 |
| Trainable Early Warning System for Epileptic Seizures | CHATTEN ASSOCIATES, INC. | R44 | 2006 | 0.1 |
| Dynamics of long range network interactions in focal epilepsy | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.1 |
| Seizure Prediction in a Rodent Model of Focal Epilepsy | HARVARD MEDICAL SCHOOL | F31 | 2018 | 0.096 |

**Cluster 40:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Quantitative Low-Dose PET Imaging | YALE UNIVERSITY | R01 | 2020 | 0.29 |
| Optimization of PET Image Reconstruction for Lesion Detection | MASSACHUSETTS GENERAL HOSPITAL | R03 | 2020 | 0.23 |
| NeuroExplorer: Ultra-high Performance Human Brain PET Imager for Highly-resolved In Vivo Imaging of Neurochemistry | YALE UNIVERSITY | U01 | 2020 | 0.21 |
| Simultaneous imaging of myocardial blood flow and glucose metabolism using dynamic 18F-FDG PET | UNIVERSITY OF CALIFORNIA AT DAVIS | R21 | 2017 | 0.2 |
| Imaging and Dosimetry of Yttrium-90 for Personalized Cancer Treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2018 | 0.2 |

**Cluster 41:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Comprehensive Colorectal Cancer Risk Prediction to Inform Personalized Screening | FRED HUTCHINSON CANCER RESEARCH CENTER | R01 | 2020 | 0.21 |
| Identifying Receipt of Colorectal Cancer Screening | VANDERBILT UNIVERSITY | R21 | 2008 | 0.21 |
| Diabetes, Medications and the Cost-Effectiveness of Screening for Colorectal Neoplasia | UNIVERSITY OF UTAH | K07 | 2020 | 0.19 |
| Optimizing long-term post-polypectomy surveillance for colorectal cancer prevention using a prediction rule developed from a large, community-based cohort | KAISER FOUNDATION RESEARCH INSTITUTE | K07 | 2020 | 0.18 |
| Comparative Modeling of Effective Policies for Colorectal Cancer Control | SLOAN-KETTERING INST CAN RESEARCH | U01 | 2020 | 0.17 |

**Cluster 42:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Identifying Risk Factors for Antibiotic Resistance via Integration of Epidemiology and Metagenomics | UNIVERSITY OF TX MD ANDERSON CAN CTR | K01 | 2020 | 0.076 |
| Models for synthesising molecular, clinical and epidemiological data, and transla | U OF L IMPERIAL COL OF SCI/TECHNLGY/MED | U01 | 2018 | 0.069 |
| Systems Biology of Microbiome-mediated Resilience to Antibiotic-resistant Pathogens | SLOAN-KETTERING INST CAN RESEARCH | U01 | 2020 | 0.067 |
| Effects of Host Metabolic Variation on Antibiotic Susceptibility | RBHS-NEW JERSEY MEDICAL SCHOOL | R00 | 2020 | 0.06 |
| FAST platform for same-shift, complete antibiotic menu antibiotic susceptibility testing | SELUX DIAGNOSTICS, INC. | R43 | 2018 | 0.059 |

**Cluster 43:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Protege: A Knowledge-Engineering Environment for Advancing Biomedical Sciences | STANFORD UNIVERSITY | R01 | 2020 | 0.2 |
| Protege: An Ontology-Development Platform for Biomedical Scientists | STANFORD UNIVERSITY | R01 | 2016 | 0.17 |
| Ontologies and Biomedical Language Processing | UNIVERSITY OF COLORADO DENVER | R01 | 2010 | 0.17 |
| Automated Integration of Biomedical Knowledge | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2010 | 0.17 |
| Collaborative Development of Biomedical Ontologies and Terminologies | STANFORD UNIVERSITY | R01 | 2016 | 0.15 |

**Cluster 44:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| EMR-Linked Biobank for Translational Genomics | GEISINGER CLINIC | U01 | 2019 | 0.095 |
| OMOP information model for eMERGE phenotyping | GEISINGER CLINIC | U01 | 2017 | 0.091 |
| Scalable tools to effectively translate genomic discoveries into the clinic | BECKMAN RESEARCH INSTITUTE/CITY OF HOPE | R35 | 2020 | 0.069 |
| EHR-based Genomic Discovery and Implementation | MAYO CLINIC ROCHESTER | U01 | 2019 | 0.067 |
| The Electronic Medical Records and Genomics (eMERGE) Network, Phase III | KAISER FOUNDATION RESEARCH INSTITUTE | U01 | 2019 | 0.065 |

**Cluster 45:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Lung cancer in East Africa and the relationship to HIV-1 infection: epidemiology, molecular characterization and imaging | CASE WESTERN RESERVE UNIVERSITY | U54 | 2020 | 0.26 |
| High Density Association Analysis of Lung Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | R01 | 2010 | 0.25 |
| EARLY DETECTION OF LUNG CANCER USING METABOLOMIC LIPID PROFILING | RUSH UNIVERSITY MEDICAL CENTER | R21 | 2014 | 0.25 |
| A diagnostic model for malignant pulmonary nodules | UNIVERSITY OF MARYLAND BALTIMORE | R21 | 2020 | 0.25 |
| Macro-vasculature: A Novel Image Biomarker of Lung Cance | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.25 |

**Cluster 46:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Genome engineering tools for functional screening of non-coding elements | NEW YORK GENOME CENTER | R00 | 2018 | 0.085 |
| EDAC: ENCODE Data Analysis Center | UNIV OF MASSACHUSETTS MED SCH WORCESTER | U24 | 2020 | 0.084 |
| What Made Us Human? | J. DAVID GLADSTONE INSTITUTES | R01 | 2011 | 0.083 |
| A Data Analysis Center for integration of fly and worm modENCODE datasets | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | RC2 | 2011 | 0.063 |
| Functional RNA elements in the human genome | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2013 | 0.06 |

**Cluster 47:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Real-time computer vision tracking of stemness | CARNEGIE-MELLON UNIVERSITY | R01 | 2010 | 0.14 |
| Dissecting the mechanism of cell migration at the systems level | CARNEGIE-MELLON UNIVERSITY | R35 | 2020 | 0.14 |
| CGMP Compliant Closed Cell Culture System for Reproducible De-differentiation of human somatic cells into iPSCs | BIOPICO | R44 | 2020 | 0.13 |
| Targeting Senescence for Biomarkers and Therapeutics | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | R01 | 2019 | 0.13 |
| Computational Modeling of Heterogeneous Gene Expression in Single Cells | UNIV OF NORTH CAROLINA CHAPEL HILL | F31 | 2017 | 0.12 |

**Cluster 48:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Asthma ascertainment and characterization through electronic health records | MAYO CLINIC ROCHESTER | R01 | 2017 | 0.43 |
| Nasal biomarkers of asthma | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2019 | 0.43 |
| Multi-Omics Analysis of the Association of Polyunsaturated Fatty Acids with Asthma and Allergy in Childhood | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.38 |
| Multifactorial spatiotemporal analyses to evaluate environmental triggers and patient-level clinical characteristics of severe asthma exacerbations in children | DUKE UNIVERSITY | R21 | 2020 | 0.38 |
| OBJECTIVE HOME MANAGEMENT OF PEDIATRIC ASTHMA EXACERBATION USING MOBILE TECHNOLOGY AND MACHINE LEARNING | AUSCULTECH DX, LLC | R41 | 2020 | 0.37 |

**Cluster 49:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2020 | 0.15 |
| Administrative Supplement Request for Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2016 | 0.14 |
| Fisk University/UIUC-Mayo KnowENG BD2K Center R25 Partnership | FISK UNIVERSITY | R25 | 2019 | 0.14 |
| Big Data Coursework for Computational Medicine | WEILL MEDICAL COLL OF CORNELL UNIV | R25 | 2016 | 0.099 |
| Summer Institute for Statistics of Big Data | UNIVERSITY OF WASHINGTON | R25 | 2016 | 0.098 |

**Cluster 50:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Web-based App to Alleviate Loneliness and Isolation in Older Adults at Home | VIGOROUS MIND, INC. | R43 | 2018 | 0.19 |
| Cognitive and social aspects of decision-making | UNIVERSITY OF COLORADO AT COLORADO SPGS | R15 | 2002 | 0.19 |
| Uncovering and Surveilling Financial Deception Risk in Aging | UNIVERSITY OF FLORIDA | R01 | 2020 | 0.18 |
| Uncovering and Surveilling Financial Deception Risk in Aging (Alzheimer's Disease Supplement to 1R01AG057764-01A1) | UNIVERSITY OF FLORIDA | R01 | 2019 | 0.18 |
| Investigating Sedentary Time In Aging: New Directions Using Technology (iSTAND) | KAISER FOUNDATION HEALTH PLAN OF WASHINGTON | K23 | 2017 | 0.17 |

**Cluster 51:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Supplementing Survey-Based Analyses of Group Vaccination Narratives and Behaviors Using Social Media | GEORGE WASHINGTON UNIVERSITY | R01 | 2019 | 0.29 |
| Influencing cervical cancer prevention and detection online through social media | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | R01 | 2016 | 0.25 |
| Mining Social Media Messages for HIV Testing and Prevention Communication | UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN | R01 | 2020 | 0.25 |
| Leveraging Social Media for Substance Use Behavioral Insight | WASHINGTON UNIVERSITY | K02 | 2020 | 0.25 |
| Using Machine Learning to Detect and Characterize Synthetic Psychoactive Drug Digital Marketing and Distribution | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R21 | 2020 | 0.23 |

**Cluster 52:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Multisite Neurobehavioral Assessment of Fetal Alcohol Spectrum Disorders | SAN DIEGO STATE UNIVERSITY | U01 | 2020 | 0.21 |
| Alcohol Use: Nonlinearities in Intraindividual Variables | UNIVERSITY OF SOUTHERN CALIFORNIA | F31 | 2005 | 0.21 |
| Alcohol Misuse: An Independent Risk Factor that Increases the Incidence and Severity of COVID-19 | RUSH UNIVERSITY MEDICAL CENTER | R24 | 2020 | 0.21 |
| Mediators and Moderators of a Neighborhood Experiment on Alcohol Use | UNIVERSITY OF MINNESOTA | R21 | 2017 | 0.21 |
| Ambulatory assessment of alcohol use, mood dysregulation, and alcohol craving | UNIVERSITY OF MISSOURI-COLUMBIA | R21 | 2014 | 0.19 |

**Cluster 53:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Neurocomputational Approaches to Emotion Representation | DUKE UNIVERSITY | R01 | 2020 | 0.11 |
| Unpacking Emotion Inflexibility and Prospective Prediction of Affective Disease | KENT STATE UNIVERSITY | R01 | 2020 | 0.11 |
| Thought disorder and social cognition in clinical risk states for schizophrenia | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2020 | 0.11 |
| The Development and Neural Bases of Emotion Processing | BOSTON CHILDREN'S HOSPITAL | R01 | 2016 | 0.1 |
| The Development and neural Bases of Emotion Processing | BOSTON CHILDREN'S HOSPITAL | R01 | 2015 | 0.1 |

**Cluster 54:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Digital Mammography: Advanced Computer-Aided Breast Can\* | UNIVERSITY OF MICHIGAN | R01 | 2007 | 0.25 |
| Computer-Aided Detection of Urinary Tract Cancer on MDCT Urography | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2014 | 0.22 |
| Digital Tomosynthesis Mammography: Computer-Aided Analysis of Masses | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R33 | 2009 | 0.2 |
| Improving Breast Cancer Detection and Diagnosis with CAD | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2011 | 0.2 |
| DEVELOPMENT OF COMPUTER BASED TECHNIQUES IN MAMMOGRAPHY | UNIVERSITY OF MICHIGAN | R01 | 2000 | 0.18 |

**Cluster 55:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Framework to Enhance Decision Support by Invoking NLP: Methods and Applications | MASSACHUSETTS GENERAL HOSPITAL | R00 | 2018 | 0.22 |
| DECISION ANALYTIC SUPPORT FOR CLINICAL GUIDELINES | UNIV OF MED/DENT NJ-R W JOHNSON MED SCH | R01 | 2000 | 0.18 |
| KNOWLEDGE PROCESSING FOR CLINICAL PRACTICE GUIDELINES | YALE UNIVERSITY | R29 | 2001 | 0.17 |
| Statistical methods for healthcare in complex patients with diabetes | FRED HUTCHINSON CANCER RESEARCH CENTER | R01 | 2019 | 0.16 |
| INTELLIGENT CRITIQUING OF CLINICAL-GUIDELINE APPLICATION | STANFORD UNIVERSITY | R01 | 2003 | 0.16 |

**Cluster 56:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biomarker panel to differentiate stroke from stroke mimic | PREDICTION SCIENCES, LLC | R43 | 2008 | 0.31 |
| Sleep apnea after stroke: Implications for screening and treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.3 |
| Fast and Easy Assessment of Stroke | ALVA HEALTH, INC. | R43 | 2019 | 0.3 |
| Whole Genome RNA Sequencing (RNAseq) of Blood from Patients with Lacunar Stroke | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.29 |
| Whole Transcriptome Studies of Patients with Transient Ischemic Attacks (TIAs) | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.28 |

**Cluster 57:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Signals of Epigenetic Modification in Sjogrens Syndrome | UNIVERSITY OF CALIFORNIA BERKELEY | F31 | 2018 | 0.11 |
| Computational modeling of DNA methylation-mediated gene regulation | WASHINGTON UNIVERSITY | R01 | 2020 | 0.1 |
| Epigenome Interactions in Complex Neurogenetic Disorders | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2015 | 0.1 |
| Inferring gene regulatory circuitry from functional genomics data | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2020 | 0.098 |
| MODELING DNA METHYLATION'S ROLE IN GENE REGULATION | WASHINGTON UNIVERSITY | R01 | 2018 | 0.098 |

**Cluster 58:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Speech Prosody and Articulatory Dynamics in Spoken Language | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2016 | 0.3 |
| Objectively Quantifying Speech Outcomes of Children with Cleft Palate | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R21 | 2019 | 0.26 |
| Functional Architecture of Speech Motor Cortex | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | U01 | 2018 | 0.26 |
| Multimodal Speech Translation for Assistive Communication | NORTHEASTERN UNIVERSITY | R21 | 2015 | 0.26 |
| A Direct Brain to Speech Generator for use in Humans | NEURAL SIGNALS, INC. | R44 | 2009 | 0.26 |

**Cluster 59:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Functional and Structural Optical Coherence Tomography for Glaucoma | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2020 | 0.077 |
| Detection of Glaucoma Progression with Macular OCT Imaging | UNIVERSITY OF CALIFORNIA LOS ANGELES | K23 | 2016 | 0.076 |
| Diagnostic Innovations in Glaucoma: Clinical Electrophysiology | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R21 | 2008 | 0.067 |
| Machine Learning Methods for Detecting Disease-related Functional and Structural Change in Glaucoma | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R21 | 2018 | 0.058 |
| Medical Advice from Glaucoma Informatics (MAGI) | UNIVERSITY OF CALIFORNIA SAN DIEGO | R33 | 2005 | 0.056 |