**Cluster 0:**

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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 | 0.27 |
| Cardiovascular implications of sleep characteristics using real-world objective sleep data | UNIVERSITY OF WASHINGTON | R21 | 2020 | 0.27 |
| Enhanced Measurement and Modeling of Sleep Electrophysiology to Better Understand Sleep Disparities | BRIGHAM AND WOMEN'S HOSPITAL | R21 | 2020 | 0.26 |
| 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 | 0.26 |
| The effect of insufficient sleep on cardiovascular disease disparity between blacks and whites | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | K01 | 2020 | 0.25 |

**Cluster 1:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Big Data Coursework for Computational Medicine | WEILL MEDICAL COLL OF CORNELL UNIV | R25 | 2016 | 0.24 |
| Fisk University/UIUC-Mayo KnowENG BD2K Center R25 Partnership | FISK UNIVERSITY | R25 | 2019 | 0.21 |
| Administrative Supplement Request for Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2016 | 0.2 |
| Summer Institute for Statistics of Big Data | UNIVERSITY OF WASHINGTON | R25 | 2016 | 0.18 |
| NextGen Random Forests | UNIVERSITY OF MIAMI SCHOOL OF MEDICINE | R01 | 2020 | 0.16 |

**Cluster 2:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| National Infrastructure for Standardized and Portable EHR Phenotyping Algorithms | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.11 |
| From enrichment to insights | STANFORD UNIVERSITY | R01 | 2020 | 0.1 |
| Semi-supervised Algorithms for Risk Assessment with Noisy EHR Data | HARVARD SCHOOL OF PUBLIC HEALTH | R21 | 2020 | 0.1 |
| An Informatics Framework for Discovery and Ascertainment of Drug-Supplement Interactions | UNIVERSITY OF MINNESOTA | R01 | 2020 | 0.1 |
| Applying NLP to Free Text as an EHR Data Capture Method to Improve EHR Usability | ZYDOC MEDICAL TRANSCRIPTION, LLC | R43 | 2012 | 0.085 |

**Cluster 3:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| CRCNS: Learning the Neural Code for Prosthetic Control | BROWN UNIVERSITY | R01 | 2006 | 0.12 |
| ANALYSIS OF NONSTATIONARY NEURAL DATA | CARNEGIE-MELLON UNIVERSITY | R01 | 2019 | 0.1 |
| Modelling Rett Syndrome in Vascularized Neural Assemblies | MORGRIDGE INSTITUTE FOR RESEARCH, INC. | UH3 | 2016 | 0.094 |
| Coding of auditory space in the avian brain | ALBERT EINSTEIN COLLEGE OF MEDICINE | R01 | 2014 | 0.092 |
| Human iPS/ES Cell-Based Models for Predictive Neural Toxicity and Teratogenicity | MORGRIDGE INSTITUTE FOR RESEARCH, INC. | UH3 | 2016 | 0.089 |

**Cluster 4:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computational Prediction and Functional Validation of Novel Risk Loci of Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.31 |
| Assessing ASL CBF as a biomarker for early Alzheimer's disease detection and disease progression | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2020 | 0.29 |
| Disparities in the Diagnosis of Alzheimer's Disease Among African American and European American Veterans | SEATTLE INST FOR BIOMEDICAL/CLINICAL RES | R56 | 2018 | 0.29 |
| Computational Prediction and Functional Validation of Novel Epigenetic Risk Loci in Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.29 |
| Genetic Predictors, Transcriptomic Biomarkers, & Neurobiological Signatures of Resilience to Alzheimer's Disease | UPSTATE MEDICAL UNIVERSITY | R01 | 2020 | 0.27 |

**Cluster 5:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Automated Knowledge Extraction for Biomedical Literature | BRANDEIS UNIVERSITY | R01 | 2006 | 0.069 |
| Knowledge-Based Biomedical Data Science | UNIVERSITY OF COLORADO DENVER | R01 | 2020 | 0.069 |
| Automated Integration of Biomedical Knowledge | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2010 | 0.057 |
| AUTOMATED KNOWLEDGE EXTRACTION FOR BIOMEDICAL LITERATURE | BRANDEIS UNIVERSITY | R01 | 2003 | 0.056 |
| In silico identification of phyto-therapies | BROWN UNIVERSITY | R01 | 2016 | 0.052 |

**Cluster 6:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computer-Aided Detection of Urinary Tract Cancer on MDCT Urography | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2014 | 0.23 |
| Digital Mammography: Advanced Computer-Aided Breast Can\* | UNIVERSITY OF MICHIGAN | R01 | 2007 | 0.22 |
| Improving Breast Cancer Detection and Diagnosis with CAD | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2011 | 0.2 |
| Computer-aided Detection of Pulmonary Embolism on CT Pulmonary Angiography | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2012 | 0.19 |
| DEVELOPMENT OF COMPUTER BASED TECHNIQUES IN MAMMOGRAPHY | UNIVERSITY OF MICHIGAN | R01 | 2000 | 0.19 |

**Cluster 7:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Understanding Functional Connectivity Abnormalities In Individual Patients with Psychosis | MASSACHUSETTS GENERAL HOSPITAL | K01 | 2020 | 0.12 |
| Avoidable Acute Care Use among Patients with Lupus | BRIGHAM AND WOMEN'S HOSPITAL | K23 | 2020 | 0.12 |
| Use of Machine Learning on Integrated Electronic Medical Record, Genetic and Waveform Data to Predict Perioperative Cardiorespiratory Instability | UNIVERSITY OF CALIFORNIA LOS ANGELES | K01 | 2020 | 0.11 |
| Skeletal Myopathy in Systemic Sclerosis: Devising a Classification Schema Predictive of Outcomes | JOHNS HOPKINS UNIVERSITY | K23 | 2020 | 0.11 |
| Advanced Image Analysis Tools for Diabetic Retinopathy Telemedicine Application | EYENUK, INC. | R44 | 2017 | 0.1 |

**Cluster 8:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Defining the messenger RNP code in the brain | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.098 |
| Programmable RNA-targeting CRISPR-Cas tools to study RNA biology | UNIVERSITY OF ROCHESTER | R35 | 2020 | 0.097 |
| Metal binding sites in macromolecular structures | UNIVERSITY OF VIRGINIA | R01 | 2019 | 0.089 |
| New methods for computational modeling of RNA structures | UNIVERSITY OF MISSOURI-COLUMBIA | R35 | 2020 | 0.089 |
| The next generation of RNA-Seq simulators for benchmarking analyses | UNIVERSITY OF PENNSYLVANIA | R21 | 2019 | 0.082 |

**Cluster 9:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Structural and Semantic Cues for the Acquisition of Linguistic Regularties | UNIVERSITY OF WISCONSIN-MADISON | F31 | 2011 | 0.22 |
| Statistical Learning in Language Acquisition | UNIVERSITY OF WISCONSIN-MADISON | R37 | 2019 | 0.22 |
| Statistical approaches to linguistic pattern learning | GEORGETOWN UNIVERSITY | R01 | 2019 | 0.21 |
| Neurocognitive determinants of adolescent second language literacy development | HASKINS LABORATORIES, INC. | R01 | 2015 | 0.21 |
| The When to Worry about Language Study (W2W-L): Joint consideration of developmental patterning and neural substrates for enhancing earlyidentification of language impairment | NORTHWESTERN UNIVERSITY | R01 | 2020 | 0.2 |

**Cluster 10:**

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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 | 0.25 |
| Integrated Web-Based Customer Engagement, Physical Exercise, and Coaching Platform for Older Adults | VIGOROUS MIND, INC. | R43 | 2017 | 0.23 |
| Cognitive and social aspects of decision-making | UNIVERSITY OF COLORADO AT COLORADO SPGS | R15 | 2002 | 0.22 |
| Frailty, Statins, and Cardiovascular Disease Burden in Older Adults | HARVARD MEDICAL SCHOOL | R03 | 2019 | 0.21 |
| Statistical methods for vitamin D targets for functional outcomes in older adults | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2019 | 0.21 |

**Cluster 11:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Measuring Infant Pain Objectively using Sensor Fusion and Machine Learning Algorithms | AUTONOMOUS HEALTHCARE, INC. | R41 | 2018 | 0.42 |
| A Multimodal Approach for Monitoring Prolonged Acute Pain in Neonates | UNIVERSITY OF SOUTH FLORIDA | R21 | 2020 | 0.4 |
| Evaluation of Pain in Chronic Pancreatitis using the NAPS2 cohorts | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R21 | 2015 | 0.4 |
| Autonomous Pain Recognition in Non-Verbal and Critically Ill Patients | UNIVERSITY OF FLORIDA | R21 | 2020 | 0.39 |
| Central glutamate signaling in postoperative pain regulation - Renewal | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | R01 | 2020 | 0.39 |

**Cluster 12:**

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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 | 0.14 |
| Clinically Relevant Genome Variation Database | STANFORD UNIVERSITY | U01 | 2016 | 0.13 |
| Regulation of mRNA splicing by intronic genetic variants | INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS | R01 | 2018 | 0.12 |
| EMERGE PHASE III CLINICAL CENTER AT PARTNERS HEALTHCARE | BRIGHAM AND WOMEN'S HOSPITAL | U01 | 2019 | 0.11 |
| GWAS TO GENE FUNCTION: NOS1AP AND OTHER QT INTERVAL GENES | JOHNS HOPKINS UNIVERSITY | R01 | 2017 | 0.11 |

**Cluster 13:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multi-parametric 4-D Imaging Biomarkers for Neoadjuvant Treatment Response | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.099 |
| Brain Cancer Radio-Pathomics for Predicting Heterogeneous Cytology | MEDICAL COLLEGE OF WISCONSIN | R01 | 2020 | 0.081 |
| Statistical atlases of brain tumor MRI:do imaging phenotypes predict progression? | UNIVERSITY OF PENNSYLVANIA | R01 | 2012 | 0.078 |
| Objective decision support environment for clinical trials | MAYO CLINIC ROCHESTER | U01 | 2016 | 0.069 |
| Quantitative (Perfusion and Diffusion) MRI Biomarkers to Measure Glioma Response | MEDICAL COLLEGE OF WISCONSIN | U01 | 2020 | 0.067 |

**Cluster 14:**

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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 | 0.03 |
| Methods for genomic data with graphical structures | UNIVERSITY OF PENNSYLVANIA | R01 | 2010 | 0.027 |
| Defining Genomic Signatures for Aberrant DNA Methylation in Human Cancers | EMORY UNIVERSITY | R01 | 2013 | 0.021 |
| Data-Driven Statistical Learning with Applications to Genomics | UNIVERSITY OF WASHINGTON | DP5 | 2018 | 0.021 |
| Statistical Methods in Trans-Omics Chronic Disease Research | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.02 |

**Cluster 15:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| The role of memory reactivation in emotional memory suppression and regulation | PRINCETON UNIVERSITY | F99 | 2020 | 0.18 |
| The effects of film music on neural activity in higher-order brain areas and comprehension for the film narrative | PRINCETON UNIVERSITY | F99 | 2020 | 0.16 |
| Using deep brain stimulation of the parietal cortex to investigate the electrophysiology of human episodic memory | UT SOUTHWESTERN MEDICAL CENTER | R01 | 2020 | 0.16 |
| Circuit mechanisms of self-organized cognitive strategies | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2020 | 0.14 |
| Hippocampal and prefrontal contributions to memory integration | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2019 | 0.14 |

**Cluster 16:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Smartband/smartphone-based automatic smoking detection and real time mindfulness intervention | YALE UNIVERSITY | R34 | 2020 | 0.031 |
| Smoking Cessation Coach--An Internet Tailoring Program | JOHNS HOPKINS UNIVERSITY | R21 | 2002 | 0.017 |
| The Development of a Noninvasive Monitoring System for Cigarette Smoking | UNIVERSITY OF ALABAMA IN TUSCALOOSA | R21 | 2011 | 0.014 |
| Socioeconomic status, stress, and smoking cessation | UNIVERSITY OF UTAH | R01 | 2020 | 0.014 |
| MACE - Michigan Alliance for Cheminformatic Exploration | UNIVERSITY OF MICHIGAN | P20 | 2007 | 0.012 |

**Cluster 17:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A systems analysis of drug tolerance in Mycobacterium tuberculosis | INSTITUTE FOR SYSTEMS BIOLOGY | R01 | 2020 | 0.17 |
| An Integrative Approach to Drug Repositioning Using Decision Tree Based Machine Learning | WEILL MEDICAL COLL OF CORNELL UNIV | F31 | 2020 | 0.16 |
| A multifactorial pipeline to dissect combinatorial drug efficacy in Tuberculosis | UNIVERSITY OF WASHINGTON | R56 | 2020 | 0.13 |
| Computationally modeling the impact of ontogeny on drug metabolic fate | UNIV OF ARKANSAS FOR MED SCIS | R01 | 2019 | 0.13 |
| Detection of Potential Drug Effect Signals from Twitter Data | PURDUE UNIVERSITY | R15 | 2014 | 0.12 |

**Cluster 18:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| ABCD-USA Consortium: Research Project | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2019 | 0.046 |
| Predicting Heterogeneous Neurodevelopmental Outcomes in School-age Children with Early Caregiving Adversities | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2020 | 0.043 |
| Development and Validation of an Automated Measurement of Child Screen Media Use: FLASH | BAYLOR COLLEGE OF MEDICINE | R01 | 2020 | 0.039 |
| Development of clinical decision tools for management of diarrhea of children in high and low resource settings | UNIVERSITY OF UTAH | R01 | 2020 | 0.039 |
| Multi-Site Validation Study of the HLHS Arrest Predictor | BAYLOR COLLEGE OF MEDICINE | R01 | 2020 | 0.038 |

**Cluster 19:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Principal Component Pursuit to Assess Exposure to Environmental Mixtures in Epidemiologic Studies | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.12 |
| Biomarkers and Genes Associated with Placental Development and Function in Response to Environmental Pollution | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2020 | 0.12 |
| Spatiotemporal Risk Assessment Modeling of Chemical Mixtures | OREGON STATE UNIVERSITY | K99 | 2019 | 0.12 |
| Complex Mixtures of Endocrine Disrupting Chemicals in Relation to Cognitive Development | COLUMBIA UNIVERSITY HEALTH SCIENCES | F31 | 2020 | 0.12 |
| Center of Excellence in Environmental Toxicology | UNIVERSITY OF PENNSYLVANIA | P30 | 2020 | 0.11 |

**Cluster 20:**

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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 | 0.35 |
| Wearable silent speech technology to enhance impaired oral communication | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.33 |
| Objectively Quantifying Speech Outcomes of Children with Cleft Palate | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R21 | 2019 | 0.33 |
| Multimodal Speech Translation for Assistive Communication | NORTHEASTERN UNIVERSITY | R21 | 2015 | 0.31 |
| Perception of dysarthric speech: An objective model of dysarthric speech evaluation with actionable outcomes | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R01 | 2020 | 0.31 |

**Cluster 21:**

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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 | 0.41 |
| Digital Monitoring of Agitation for Short-Term Suicide Risk Prediction | MASSACHUSETTS GENERAL HOSPITAL | K23 | 2020 | 0.4 |
| Innovations in Suicide Prevention Research (INSPIRE) | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.38 |
| Using multimodal imaging and the RDoC framework to predict risk factors for suicide attempt | YALE UNIVERSITY | R03 | 2020 | 0.38 |
| Computerized Adaptive Suicidal Risk Stratification and Prediction | ADAPTIVE TESTING TECHNOLOGIES | R44 | 2020 | 0.38 |

**Cluster 22:**

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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 | 0.37 |
| Addressing Major HIV Prevention and Health Outcomes Questions in an Era of Universal ART: Mentoring in a Community-Randomized Trial | BRIGHAM AND WOMEN'S HOSPITAL | K24 | 2020 | 0.35 |
| Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa | STANFORD UNIVERSITY | R01 | 2020 | 0.35 |
| Defining the impact of injection drug use on antiretroviral therapy and HIV treatment outcomes: an (epi)genomic approach | YALE UNIVERSITY | R01 | 2020 | 0.34 |
| NeuroAIDS in India | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2011 | 0.34 |

**Cluster 23:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Longitudinal brain development and clinical outcomes in ADHD from 7-17 years | OREGON HEALTH & SCIENCE UNIVERSITY | R56 | 2016 | 0.094 |
| Motion Robust Mapping of Human Brain Functional Connectivity Changes in Utero | UNIVERSITY OF WASHINGTON | R01 | 2016 | 0.078 |
| Enabling Shared Analysis and Processing of Large Neurophysiology Data | KITWARE, INC. | R44 | 2018 | 0.075 |
| Pattern Analysis of fMRI via machine learning/sparse models: application to brain development | UNIVERSITY OF PENNSYLVANIA | R01 | 2019 | 0.074 |
| A BRAIN Initiative Resource: The Neuroscience Multi-omic Data Archive | UNIVERSITY OF MARYLAND BALTIMORE | R24 | 2020 | 0.073 |

**Cluster 24:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Mid-frontal delta/theta rhythms and cognitive control in PD | UNIVERSITY OF IOWA | R01 | 2020 | 0.34 |
| Intrinsic Cortical Networks and Cognitive Dysfunction in Parkinson's Disease | UNIVERSITY OF COLORADO DENVER | K02 | 2017 | 0.31 |
| Intrinsic Cortical Networks and Cognitive Dysfunction in Parkinson???s Disease | UNIVERSITY OF COLORADO DENVER | K02 | 2014 | 0.31 |
| The Gut Microbiome in Parkinson Disease | UNIVERSITY OF MASSACHUSETTS LOWELL | R01 | 2019 | 0.3 |
| Multi-tissue high-throughput proteomic and genomic study in Parkinson's Disease | WASHINGTON UNIVERSITY | R01 | 2020 | 0.3 |

**Cluster 25:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Delineating proactive social behaviors in dynamic and multidimensional social space | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R21 | 2020 | 0.2 |
| Studying how the hippocampal-prefrontal-hypothalamic circuit encodes social dominance | SALK INSTITUTE FOR BIOLOGICAL STUDIES | K99 | 2020 | 0.18 |
| BIGDATA: Small DA Social Behavior Driven Modeling and Optimization of Information | GEORGIA INSTITUTE OF TECHNOLOGY | R01 | 2015 | 0.17 |
| The Molecular Underpinnings of Complex Social Behavior | ROCKEFELLER UNIVERSITY | R35 | 2020 | 0.17 |
| Neural Circuit Mechanisms of Social Homeostasis in Individuals and Supraorganismal Social Groups | SALK INSTITUTE FOR BIOLOGICAL STUDIES | DP1 | 2020 | 0.16 |

**Cluster 26:**

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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 | 0.13 |
| Annotation, development and evaluation for clinical information extraction (transfer) | BOSTON CHILDREN'S HOSPITAL | R01 | 2013 | 0.13 |
| Natural language processing for clinical and translational research | MAYO CLINIC ROCHESTER | R01 | 2016 | 0.13 |
| Investigating the generalizability of natural language processing of EMR data | KAISER FOUNDATION RESEARCH INSTITUTE | R21 | 2009 | 0.12 |
| Extended Methods and Software Development for Health NLP | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2019 | 0.11 |

**Cluster 27:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Comprehensive analysis of human adaptive immune receptors to elucidate correlates of Epstein-Barr virus disease suppression | UNIVERSITY OF KANSAS LAWRENCE | DP5 | 2020 | 0.2 |
| Blending deep learning with probabilistic mechanistic models to predict and understand the evolution and function of adaptive immune receptors | FRED HUTCHINSON CANCER RESEARCH CENTER | R01 | 2020 | 0.15 |
| Machine Learning for Integrative Modeling of the Immune System in Clinical Settings | STANFORD UNIVERSITY | R35 | 2020 | 0.14 |
| Development of a Universal Influenza Vaccine | BIOLOGICAL MIMETICS, INC. | R43 | 2020 | 0.13 |
| C-Type Lectins and Immune Surveillance in ALD | CLEVELAND CLINIC LERNER COM-CWRU | K99 | 2020 | 0.13 |

**Cluster 28:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Automated Facial Expression Analysis for Research and Clinical Use | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2016 | 0.26 |
| Modeling the Nonmanuals in American Sign Language | PURDUE UNIVERSITY | R01 | 2008 | 0.25 |
| FACIAL EXPRESSION ANALYSIS BY IMAGE PROCESSING | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2005 | 0.25 |
| COMPUTER VISION ANALYSIS OF DYNAMIC FACIAL BEHAVIOR | UNIVERSITY OF CALIFORNIA SAN DIEGO | F32 | 2001 | 0.22 |
| Craniofacial Microsmia: Facial Expression from Ages 1 to 3 Years | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R03 | 2018 | 0.22 |

**Cluster 29:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Identifying palliative care needs among hospitalized patients with chronic obstructive pulmonary disease | UNIVERSITY OF PENNSYLVANIA | K23 | 2020 | 0.06 |
| Improving Hospital Efficiency: Predicting Post-Acute Care Facility Placement Using Machine Learning and Patient Mobility Scores from the Electronic Medical Record | JOHNS HOPKINS UNIVERSITY | R03 | 2020 | 0.054 |
| Deep Learning and Streaming Analytics for Prediction of Adverse Events in the ICU | UNIVERSITY OF CALIFORNIA, SAN DIEGO | K01 | 2019 | 0.054 |
| Enhancing an EMR-Based Real-Time Sepsis Alert System Performance through Machine Learning | WAYNE STATE UNIVERSITY | R21 | 2017 | 0.053 |
| Aligning Patient Acuity with Intensity of Care after Surgery | UNIVERSITY OF FLORIDA | K23 | 2020 | 0.053 |

**Cluster 30:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.27 |
| Using Markov Decision Processes to Optimize Breast Biopsy Decision Making | UNIVERSITY OF WISCONSIN-MADISON | R21 | 2009 | 0.26 |
| Informatics Techniques to Optimize Mammography for Aging Populations | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2016 | 0.26 |
| A Noninvasive, Precision Medicine Approach to Improve Breast Cancer Screening Using Cell-free RNA from Saliva. | PRIME GENOMICS, INC. | R43 | 2019 | 0.25 |
| Breast Cancer Risk Stratification with Resonant Electrical Impedance Spectroscopy | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R33 | 2010 | 0.25 |

**Cluster 31:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| INTELLIGENT CONTROL OF UPPER EXTREMITY NEURAL PROSTHESES | CLEVELAND CLINIC LERNER COL/MED-CWRU | R21 | 2006 | 0.067 |
| Motor Learning for the Control of an Assistive Device | REHABILITATION INSTITUTE OF CHICAGO D/B/A SHIRLEY RYAN ABILITYLAB | R21 | 2008 | 0.065 |
| Physical Activity Calibration in Individuals with Movement Limitations | UNIVERSITY OF WISCONSIN MILWAUKEE | R21 | 2015 | 0.056 |
| Human and Machine Learning for Customized Control of Assistive Robots | REHABILITATION INSTITUTE OF CHICAGO D/B/A SHIRLEY RYAN ABILITYLAB | R01 | 2019 | 0.056 |
| Non-Invasive System for Identifying Neural Behavior | ALTEC, INC. | R01 | 2009 | 0.053 |

**Cluster 32:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Integrated Prediction of Protein Struture at 1D, 2D and 3D Levels | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2013 | 0.18 |
| Advanced approaches to protein structure prediction | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R35 | 2020 | 0.18 |
| Distance-based ab initio protein structure prediction | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2020 | 0.17 |
| PREDOCTORAL FELLOWSHIPS FOR STUDENTS WITH DISABILITIES | PRINCETON UNIVERSITY | F31 | 2004 | 0.17 |
| Mining the Structural Genomics Pipeline | YALE UNIVERSITY | F32 | 2006 | 0.17 |

**Cluster 33:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Laser-Based Device for Work Site Stability Assessment | AAC INTERNATIONAL | R44 | 2007 | 0.052 |
| COMMUNICATION AID UTILIZING WORD LEVEL DISAMBIGUATION | MADENTEC (USA), INC. | R44 | 2002 | 0.045 |
| SBIR Topic 379: DigiBioMarC: Digital BioMarkers for Clinical Impact- Moonshot Project(Fast Track) | MEDABLE, INC. | N43 | 2019 | 0.044 |
| IGF::OT::IGF SBIR Topic 379: DigiBioMarC: Digital BioMarkers for Clinical Impact- Moonshot Project(Fast Track) | MEDABLE, INC. | N01 | 2018 | 0.044 |
| Trainable Early Warning System for Epileptic Seizures | CHATTEN ASSOCIATES, INC. | R44 | 2006 | 0.042 |

**Cluster 34:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multi-modal and Extreme PET/MRI Reconstruction Methods | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | F32 | 2020 | 0.095 |
| Real-Time MRI Motion Correction System | STANFORD UNIVERSITY | R01 | 2013 | 0.083 |
| MRI-Based Radiation Therapy Treatment Planning | STANFORD UNIVERSITY | R01 | 2020 | 0.08 |
| Improved Techniques for Substitute CT Generation from MRI datasets | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2020 | 0.079 |
| Rapid Robust Pediatric MRI | STANFORD UNIVERSITY | R01 | 2020 | 0.075 |

**Cluster 35:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A New Model of Peptide Fragmentation for Improved Protein Identification and Targ | UNIVERSITY OF COLORADO | R01 | 2015 | 0.25 |
| Improving Diagnosis of Multiple Sclerosis Through the Integration of Novel Imaging and Laboratory Biomarkers | UNIVERSITY OF VERMONT & ST AGRIC COLLEGE | K02 | 2020 | 0.23 |
| Sequential Ion/Ion Reactions for Large Peptide and Whole Protein Characterization | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2015 | 0.22 |
| Analysis of LC-MS data to identify peptide and glycan biomarkers for hepatocellul | GEORGETOWN UNIVERSITY | R01 | 2014 | 0.21 |
| Intelligent Aids for Proteomic Data Mining | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | K25 | 2008 | 0.21 |

**Cluster 36:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Representation of information across the human visual cortex | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2018 | 0.16 |
| Towards cortical visual prosthetics | BOSTON CHILDREN'S HOSPITAL | R21 | 2010 | 0.16 |
| Learning and updating internal visual models | ALBERT EINSTEIN COLLEGE OF MEDICINE, INC | R01 | 2017 | 0.15 |
| Perceptual bases of visual concepts | UNIVERSITY OF IOWA | R01 | 2010 | 0.15 |
| Neural and Behavioral Interactions Between Attention, Perception, and Learning | PRINCETON UNIVERSITY | R01 | 2015 | 0.14 |

**Cluster 37:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Evaluating Longitudinal Changes in the Human Structural Connectome in Relation to Cognitive Aging | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.15 |
| Neural substrates of diffusion imaging in cognitively aging rhesus monkeys | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2020 | 0.13 |
| Systems Immunology in Aging and Chronic Diseases of Aging | JACKSON LABORATORY | R13 | 2020 | 0.096 |
| Systems Biology of Aging: Data-science meets Gero-science | JACKSON LABORATORY | R13 | 2019 | 0.094 |
| A Strength Analysis Tool for Studying Healthy Aging via Exercise in C. elegans | TEXAS TECH UNIVERSITY | R21 | 2016 | 0.091 |

**Cluster 38:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Assisted Identification and Navigation of Early Mental Health Symptoms in Youth | KAISER FOUNDATION RESEARCH INSTITUTE | R56 | 2018 | 0.14 |
| Real-Time Mobile Cognitive Behavioral Intervention for Serious Mental Illness | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.13 |
| CBTpro: Scaling up CBT for psychosis using simulated patients and spoken language technologies | LYSSN.IO, INC. | R42 | 2020 | 0.11 |
| Deep machine learning to delineate trajectories of vulnerability and transition to mental illness in youth | UNIVERSITY OF WASHINGTON | K99 | 2020 | 0.11 |
| Improved methods to assess the comparative safety of new psychiatric medications | BRIGHAM AND WOMEN'S HOSPITAL | K01 | 2017 | 0.1 |

**Cluster 39:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.17 |
| Charting a New Course for Heart Failure: From Discovery to Data | KEYSTONE SYMPOSIA | R13 | 2020 | 0.15 |
| AUTOMATIC QUANTITATIVE CT IMAGING OF PERICARDIAL FAT: A NOVEL ISCHEMIA PREDICTOR | CEDARS-SINAI MEDICAL CENTER | R21 | 2009 | 0.14 |
| Mending a Broken Heart Allocation System with Machine Learning | UNIVERSITY OF CHICAGO | K08 | 2020 | 0.14 |
| Improving Heart Transplant Allocation to Reduce High Waitlist Mortality in Women | CLEVELAND CLINIC LERNER COM-CWRU | R56 | 2015 | 0.13 |

**Cluster 40:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| iTransform: Wearable Biosensors to Detect the Evolution of Opioid Tolerance in Opioid Naïve Individuals | UNIV OF MASSACHUSETTS MED SCH WORCESTER | K23 | 2020 | 0.33 |
| Using Machine Learning to Predict Problematic Prescription Opioid Use and Opioid Overdose | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2019 | 0.32 |
| Telemedicine for Treatment of Opioid Use Disorder | HARVARD MEDICAL SCHOOL | R01 | 2020 | 0.29 |
| THE PRIMARY OBJECTIVE OF THE PROPOSED PHASE I WORK IS TO FURTHER DEVELOP A PROOF-OF-CONCEPT (POC) MACHINE LEARNING APPROACH TO DETECT ILLEGAL OPIOID SELLERS AND DEVELOP IT INTO AN MVP THAT CAN COLLEC | S-3 RESEARCH, LLC | N43 | 2019 | 0.29 |
| Real-time fMRI neurofeedback of large-scale network dynamics in opioid use disorder | YALE UNIVERSITY | R21 | 2020 | 0.29 |

**Cluster 41:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Defining cell types, lineage, and connectivity in developing human fetal cortex | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2016 | 0.11 |
| Dissecting the mechanism of cell migration at the systems level | CARNEGIE-MELLON UNIVERSITY | R35 | 2020 | 0.098 |
| In situ transcriptome profiling in single cells | CALIFORNIA INSTITUTE OF TECHNOLOGY | UH3 | 2020 | 0.095 |
| Neuron and Glial Cellular Signatures from Normal and Diseased iPS Cells | UNIVERSITY OF CALIFORNIA-IRVINE | U54 | 2020 | 0.094 |
| Neuron and Glial Cellular Signatures from Normal and Diseased iPS Cells-Supplement | UNIVERSITY OF CALIFORNIA-IRVINE | U54 | 2018 | 0.094 |

**Cluster 42:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Machine Learning and Personalized Prognosis for Depression Treatment | UNIVERSITY OF TEXAS, AUSTIN | R21 | 2017 | 0.13 |
| Building Multistage Treatment Regimens for Depression after Acute Coronary SyndromeSyndrome | COLUMBIA UNIVERSITY HEALTH SCIENCES | R21 | 2017 | 0.13 |
| Biosignatures of Treatment Remission in Major Depression | COLUMBIA UNIVERSITY HEALTH SCIENCES | U01 | 2015 | 0.12 |
| Evaluation of molecular mechanisms of treatment response in late-life depression | CENTRE FOR ADDICTION AND MENTAL HEALTH | R01 | 2020 | 0.11 |
| Building a Risk Stratification Model for Treatment Resistance in Major Depressive | MASSACHUSETTS GENERAL HOSPITAL | R01 | 2011 | 0.091 |

**Cluster 43:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| New Physical Methodologies for Genomic Analysis | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2014 | 0.078 |
| What Made Us Human? | J. DAVID GLADSTONE INSTITUTES | R01 | 2011 | 0.075 |
| Evolutionary Human Genomics: Demography, Natural Selection, and Transcriptional Regulation | COLD SPRING HARBOR LABORATORY | R35 | 2020 | 0.075 |
| Genome engineering tools for functional screening of non-coding elements | NEW YORK GENOME CENTER | R00 | 2018 | 0.072 |
| BioHDF - Open Binary File Standards for Bioinformatics | GEOSPIZA, INC. | R41 | 2005 | 0.071 |

**Cluster 44:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Histopathology correlated quantitative analysis of lung nodules with LDCT for early detection of lung cancer | UNIVERSITY OF MICHIGAN AT ANN ARBOR | U01 | 2020 | 0.25 |
| Macro-vasculature: A Novel Image Biomarker of Lung Cance | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.24 |
| Lung cancer in East Africa and the relationship to HIV-1 infection: epidemiology, molecular characterization and imaging | CASE WESTERN RESERVE UNIVERSITY | U54 | 2020 | 0.24 |
| Lung Screening: Efficacy versus Effectiveness | BROWN UNIVERSITY | R01 | 2020 | 0.23 |
| A diagnostic model for malignant pulmonary nodules | UNIVERSITY OF MARYLAND BALTIMORE | R21 | 2020 | 0.23 |

**Cluster 45:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Long non-coding RNA signatures to distinguish fibromyalgia syndrome from rheumatic diseases | IQUITY LABS, INC | R44 | 2019 | 0.022 |
| Predictive Biomarkers for disease activity and organ damage in patients with lupus | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R01 | 2020 | 0.021 |
| OSTEOPOROSIS IN HYPERCALCURIC KIDNEY STONE FORMERS | LITHOLINK CORPORATION | R43 | 2001 | 0.017 |
| Developing Classification Criteria for the Uveitides | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2019 | 0.016 |
| Osteoporosis in Hypercalciuric Kidney Stone Formers | LITHOLINK CORPORATION | R44 | 2003 | 0.015 |

**Cluster 46:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Impact of Crouch Gait and Surgical Treatment on Knee Mechanics and Function | UNIVERSITY OF WISCONSIN-MADISON | R21 | 2016 | 0.18 |
| Intraocular Robotic Interventional Surgical System for Cataract Surgery Project | UNIVERSITY OF CALIFORNIA LOS ANGELES | R21 | 2015 | 0.17 |
| Data-Driven Framework for Classification and Surgical Planning of Spinal Deformity. | CHILDREN'S HOSP OF PHILADELPHIA | R21 | 2020 | 0.16 |
| Quantifying the Metrics of Surgical Mastery: An Exploration in Data Science | STANFORD UNIVERSITY | R01 | 2020 | 0.16 |
| Real-time non-intrusive workload monitoring-Integration of human factors in surgery training and assessment | PURDUE UNIVERSITY | R21 | 2020 | 0.16 |

**Cluster 47:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Leveraging Maps and Computer Vision to Support Indoor Navigation for Blind Travelers | SMITH-KETTLEWELL EYE RESEARCH INSTITUTE | R01 | 2020 | 0.15 |
| Providing Access to Appliance Displays for Visually Impaired Users | SMITH-KETTLEWELL EYE RESEARCH INSTITUTE | R01 | 2015 | 0.15 |
| Vision Without Sight: Exploring the Environment with a Portable Camera | UNIVERSITY OF CALIFORNIA SANTA CRUZ | R21 | 2012 | 0.15 |
| Psychophysics of Reading - Normal and Low Vision | UNIVERSITY OF MINNESOTA | R01 | 2018 | 0.15 |
| Designing Visually Accessible Spaces | UNIVERSITY OF MINNESOTA | R01 | 2018 | 0.14 |

**Cluster 48:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Crowd coding in the brain:3D imaging and control of collective neuronal dynamics | UNIV OF MARYLAND, COLLEGE PARK | U01 | 2016 | 0.098 |
| Experimental examinations of the mechanisms that generate the responses of midbra | HARVARD UNIVERSITY | R01 | 2017 | 0.091 |
| Mapping the neural circuitry underlying walking | COLUMBIA UNIVERSITY HEALTH SCIENCES | F32 | 2020 | 0.085 |
| "Methods from Computational Topology and Geometry for Analysing Neuronal Tree and Graph Data" | COLD SPRING HARBOR LABORATORY | R01 | 2018 | 0.079 |
| A MOLECULAR CODE FOR CONNECTIVITY IN THE NEOCORTEX | BAYLOR COLLEGE OF MEDICINE | R01 | 2016 | 0.077 |

**Cluster 49:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Southern California Clinical Center of the Type 1 Diabetes in Acute Pancreatitis Consortium | CEDARS-SINAI MEDICAL CENTER | U01 | 2020 | 0.25 |
| Validation of Survey Questions to Distinguish Type 1 and Type 2 Diabetes Among Adults With Diabetes | WESTAT, INC. | U01 | 2018 | 0.24 |
| Clinical, Radiologic and Biochemical Factors Related to Diabetes Development after Acute Pancreatitis | JOHNS HOPKINS UNIVERSITY | U01 | 2020 | 0.22 |
| Multi-institutional Consortium for CER in Diabetes Treatment and Prevention | KAISER FOUNDATION RESEARCH INSTITUTE | R01 | 2010 | 0.19 |
| Using Real-world Data to Assess the Burden of Diabetes in Children and Adolescents in Florida | UNIVERSITY OF FLORIDA | U18 | 2020 | 0.18 |

**Cluster 50:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Building a classroom game economy to improve mathematical reasoning and prepare K-5 students for success in STEM learning | TEACHLEY, LLC | R44 | 2020 | 0.22 |
| An interactive, digital platform to transform biological learning | SQUID BOOKS, LLC | R44 | 2020 | 0.22 |
| MBRS IMSD Program at the University of Kansas | UNIVERSITY OF KANSAS LAWRENCE | R25 | 2008 | 0.21 |
| MUSC Minority Student Development Program | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R25 | 2008 | 0.21 |
| An interactive, digital platform to transform physical science learning | SQUID BOOKS, LLC | R44 | 2020 | 0.21 |

**Cluster 51:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Ambulatory assessment of alcohol use, mood dysregulation, and alcohol craving | UNIVERSITY OF MISSOURI-COLUMBIA | R21 | 2014 | 0.27 |
| Alcohol consumption monitoring via a power-free wearable biosensor | LOGICINK CORPORATION | R43 | 2018 | 0.27 |
| : Complex systems analysis of the impact of alcohol on bone in non-human primates | OREGON STATE UNIVERSITY | R01 | 2020 | 0.27 |
| Alcohol Misuse: An Independent Risk Factor that Increases the Incidence and Severity of COVID-19 | RUSH UNIVERSITY MEDICAL CENTER | R24 | 2020 | 0.26 |
| Mediators and Moderators of a Neighborhood Experiment on Alcohol Use | UNIVERSITY OF MINNESOTA | R21 | 2017 | 0.26 |

**Cluster 52:**

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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 | 0.34 |
| Sleep apnea after stroke: Implications for screening and treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.33 |
| Fast and Easy Assessment of Stroke | ALVA HEALTH, INC. | R43 | 2019 | 0.33 |
| Whole Transcriptome Studies of Patients with Transient Ischemic Attacks (TIAs) | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.31 |
| Enhancing Stroke Prehospital and Emergency Evaluation and Delivery (E-SPEED) | UNIVERSITY OF CHICAGO | R18 | 2020 | 0.29 |

**Cluster 53:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Visualization and Analysis of the TCGA Data Using the UCSC Cancer Genomics Browse | UNIVERSITY OF CALIFORNIA SANTA CRUZ | R21 | 2009 | 0.1 |
| Gene-Gene Interactions and Their Functional Roles in Prostate Cancer Aggressiveness | LSU HEALTH SCIENCES CENTER | R21 | 2017 | 0.09 |
| Genetic & epigenetic analysis of angiogenesis genes in recurrent prostate cancer | H. LEE MOFFITT CANCER CTR & RES INST | R01 | 2012 | 0.09 |
| MICRORNA BIOMARKERS FOR OROPHARYNGEAL CANCER | UNIVERSITY OF ILLINOIS AT CHICAGO | R01 | 2020 | 0.09 |
| Stephenson Cancer Center - Cancer Center Support Grant | UNIVERSITY OF OKLAHOMA HLTH SCIENCES CTR | P30 | 2020 | 0.084 |

**Cluster 54:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computational methods for modeling lineage-specific gene regulation | STANFORD UNIVERSITY | R01 | 2016 | 0.12 |
| ANALYSIS OF COMBINATORIAL CIS-REGULATION IN SYNTHETIC AND GENOMIC PROMOTER | WASHINGTON UNIVERSITY | R01 | 2015 | 0.11 |
| Learning Regulatory Drivers of Chromatin and Expression Dynamics during Nuclear Reprogramming | STANFORD UNIVERSITY | R01 | 2019 | 0.11 |
| PROMOTERS | WASHINGTON UNIVERSITY | R01 | 2018 | 0.11 |
| "Ribonomics" of Gene Regulation to predict Innate Immune Responses | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2017 | 0.099 |

**Cluster 55:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Cerebellar connectivity and error-based learning in infants at risk for autism | WASHINGTON UNIVERSITY | F31 | 2020 | 0.29 |
| Investigating quantitative signatures of autism in toddlers | COLUMBIA UNIVERSITY TEACHERS COLLEGE | R01 | 2020 | 0.28 |
| Co-occurring ADHD in young children with ASD: Precursors, detection, neural signatures, and early treatment | DUKE UNIVERSITY | P50 | 2020 | 0.27 |
| Novel video-based approaches for detection of autism risk in the first year of life | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.27 |
| Neural Correlates of Biological Motion Perception in Children with ASD | SEATTLE CHILDREN'S HOSPITAL | K01 | 2018 | 0.25 |

**Cluster 56:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Integrative framework for identifying dysregulated mechanisms in the tumor-immune microenvironment | COLUMBIA UNIV NEW YORK MORNINGSIDE | R00 | 2020 | 0.092 |
| Feedback, lineages and cancer: A multidisciplinary approach. | UNIVERSITY OF CALIFORNIA-IRVINE | RC2 | 2010 | 0.089 |
| Integrated Discovery Pipeline for Tumor Neoantigens | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.089 |
| Genotype and phenotype predictors in therapy response in renal cell carcinoma | UNIVERSITY OF PENNSYLVANIA | R01 | 2013 | 0.084 |
| UCSC-Buck Specialized Genomic Data Analysis Center for the Genomic Data Analysis Network | UNIVERSITY OF CALIFORNIA SANTA CRUZ | U24 | 2020 | 0.084 |

**Cluster 57:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Continued Development of CellProfiler Cell Image Analysis Software | BROAD INSTITUTE, INC. | R01 | 2016 | 0.085 |
| Multimodal image registration by proxy image synthesis | JOHNS HOPKINS UNIVERSITY | R01 | 2015 | 0.082 |
| Advancing algorithms for image-based profiling | BROAD INSTITUTE, INC. | R35 | 2020 | 0.082 |
| Extracting rich information from biological images | BROAD INSTITUTE, INC. | R35 | 2018 | 0.079 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics System for Muscle | UNIVERSITY OF FLORIDA | R01 | 2016 | 0.078 |

**Cluster 58:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Nasal biomarkers of asthma | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2019 | 0.48 |
| Asthma ascertainment and characterization through electronic health records | MAYO CLINIC ROCHESTER | R01 | 2017 | 0.46 |
| Multi-Omics Analysis of the Association of Polyunsaturated Fatty Acids with Asthma and Allergy in Childhood | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.42 |
| OBJECTIVE HOME MANAGEMENT OF PEDIATRIC ASTHMA EXACERBATION USING MOBILE TECHNOLOGY AND MACHINE LEARNING | AUSCULTECH DX, LLC | R41 | 2020 | 0.41 |
| SCH: kHealth: Semantic Multisensory Mobile Approach to Personalized Asthma Care | WRIGHT STATE UNIVERSITY | R01 | 2018 | 0.41 |

**Cluster 59:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Neuroscience Gateway to Enable Dissemination of Computational And Data Processing Tools And Software. | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U24 | 2020 | 0.032 |
| CORE CENTER FOR CLINICAL RESEACH IN TOTAL JOINT ARTHROPLASTY (CORE-TJA) | MAYO CLINIC ROCHESTER | P30 | 2020 | 0.031 |
| COINSTAC: Decentralized, Scalable Analysis of Loosely Coupled Data | GEORGIA STATE UNIVERSITY | R01 | 2019 | 0.03 |
| Carolina Population Center | UNIV OF NORTH CAROLINA CHAPEL HILL | P2C | 2020 | 0.027 |
| COINSTAC: decentralized, scalable analysis of loosely coupled data | THE MIND RESEARCH NETWORK | R01 | 2018 | 0.027 |