**Cluster 0:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Identification of Therapeutic Small Molecules for Myotonic Dystrophy Type 1 | UNIVERSITY OF SOUTHERN CALIFORNIA | R21 | 2013 | 0.11 |
| Computational genome-wide RNA profiling using next-generation sequencing | UNIVERSITY OF PENNSYLVANIA | R01 | 2016 | 0.1 |
| Structure, function, and dynamics of viral RNAs and RNA-containing complexes | UNIVERSITY OF COLORADO DENVER | R35 | 2020 | 0.083 |
| An Automated RNA 3D Structure Determination System | NYMIRUM, INC. | R44 | 2016 | 0.082 |
| High Throughput Screen for Myotonic Dystrophy Type 1 | UNIVERSITY OF SOUTHERN CALIFORNIA | R03 | 2011 | 0.078 |

**Cluster 1:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biomarker panel to differentiate stroke from stroke mimic | PREDICTION SCIENCES, LLC | R43 | 2008 | 0.3 |
| Sleep apnea after stroke: Implications for screening and treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.29 |
| Fast and Easy Assessment of Stroke | ALVA HEALTH, INC. | R43 | 2019 | 0.29 |
| Whole Genome RNA Sequencing (RNAseq) of Blood from Patients with Lacunar Stroke | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.28 |
| Whole Transcriptome Studies of Patients with Transient Ischemic Attacks (TIAs) | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.27 |

**Cluster 2:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.082 |
| Integrative Cancer Genomics: Drivers, Pathways and Drugs | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2016 | 0.081 |
| UCSC-Buck Inst. Genome Data Analysis Center for TCGA Research Network (GDAC) | UNIVERSITY OF CALIFORNIA SANTA CRUZ | U24 | 2016 | 0.074 |
| A Federated Galaxy for user-friendly large-scale cancer genomics research | OREGON HEALTH & SCIENCE UNIVERSITY | U24 | 2020 | 0.073 |
| MICRORNA BIOMARKERS FOR OROPHARYNGEAL CANCER | UNIVERSITY OF ILLINOIS AT CHICAGO | R01 | 2020 | 0.07 |

**Cluster 3:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Automated Facial Expression Analysis for Research and Clinical Use | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2016 | 0.32 |
| FACIAL EXPRESSION ANALYSIS BY IMAGE PROCESSING | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2005 | 0.31 |
| Modeling the Nonmanuals in American Sign Language | PURDUE UNIVERSITY | R01 | 2008 | 0.28 |
| A Study of the Computational Space of Facial Expressions of Emotion | OHIO STATE UNIVERSITY | R01 | 2014 | 0.27 |
| COMPUTER VISION ANALYSIS OF DYNAMIC FACIAL BEHAVIOR | UNIVERSITY OF CALIFORNIA SAN DIEGO | F32 | 2001 | 0.23 |

**Cluster 4:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| The role of memory reactivation in emotional memory suppression and regulation | PRINCETON UNIVERSITY | F99 | 2020 | 0.086 |
| Hippocampal and prefrontal contributions to memory integration | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2019 | 0.082 |
| Mid-frontal delta/theta rhythms and cognitive control in PD | UNIVERSITY OF IOWA | R01 | 2020 | 0.067 |
| Neural mechanisms for reducing interference during episodic memory formation | UNIVERSITY OF OREGON | R01 | 2018 | 0.066 |
| Intrinsic Cortical Networks and Cognitive Dysfunction in Parkinson's Disease | UNIVERSITY OF COLORADO DENVER | K02 | 2017 | 0.065 |

**Cluster 5:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Protege: An Ontology-Development Platform for Biomedical Scientists | STANFORD UNIVERSITY | R01 | 2016 | 0.33 |
| Collaborative Development of Biomedical Ontologies and Terminologies | STANFORD UNIVERSITY | R01 | 2016 | 0.31 |
| Protege: A Knowledge-Engineering Environment for Advancing Biomedical Sciences | STANFORD UNIVERSITY | R01 | 2020 | 0.3 |
| Ontologies and Biomedical Language Processing | UNIVERSITY OF COLORADO DENVER | R01 | 2010 | 0.26 |
| Automated Integration of Biomedical Knowledge | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2010 | 0.25 |

**Cluster 6:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Scalable Assays for Morphological Analysis of Mammalian Neurons | HARVARD MEDICAL SCHOOL | R01 | 2014 | 0.1 |
| Crowd coding in the brain:3D imaging and control of collective neuronal dynamics | UNIV OF MARYLAND, COLLEGE PARK | U01 | 2016 | 0.1 |
| Experimental examinations of the mechanisms that generate the responses of midbra | HARVARD UNIVERSITY | R01 | 2017 | 0.1 |
| Exocytosis fuels plasma membrane expansion in developing neurons | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.093 |
| Corticofugal Modulation of Tactile Sensory Processing | DUKE UNIVERSITY | R01 | 2005 | 0.083 |

**Cluster 7:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biosignatures of Treatment Remission in Major Depression | COLUMBIA UNIVERSITY HEALTH SCIENCES | U01 | 2015 | 0.15 |
| Building Multistage Treatment Regimens for Depression after Acute Coronary SyndromeSyndrome | COLUMBIA UNIVERSITY HEALTH SCIENCES | R21 | 2017 | 0.13 |
| Machine Learning and Personalized Prognosis for Depression Treatment | UNIVERSITY OF TEXAS, AUSTIN | R21 | 2017 | 0.13 |
| An Expert System to Reduce Depression in Primary Care | PRO-CHANGE BEHAVIOR SYSTEMS, INC. | R44 | 2004 | 0.12 |
| Predicting Internet-Based Treatment Response for Major Depressive Disorder | MCLEAN HOSPITAL | R56 | 2017 | 0.12 |

**Cluster 8:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| OBJECTIVE HOME MANAGEMENT OF PEDIATRIC ASTHMA EXACERBATION USING MOBILE TECHNOLOGY AND MACHINE LEARNING | AUSCULTECH DX, LLC | R41 | 2020 | 0.12 |
| SCH: kHealth: Semantic Multisensory Mobile Approach to Personalized Asthma Care | WRIGHT STATE UNIVERSITY | R01 | 2018 | 0.11 |
| Multifactorial spatiotemporal analyses to evaluate environmental triggers and patient-level clinical characteristics of severe asthma exacerbations in children | DUKE UNIVERSITY | R21 | 2020 | 0.11 |
| Asthma ascertainment and characterization through electronic health records | MAYO CLINIC ROCHESTER | R01 | 2017 | 0.11 |
| Identification and characterization of children with asthma-associated comorbidities through computational and immune phenotyping | MAYO CLINIC ROCHESTER | R01 | 2020 | 0.11 |

**Cluster 9:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Real-time computer vision tracking of stemness | CARNEGIE-MELLON UNIVERSITY | R01 | 2010 | 0.13 |
| Dissecting the mechanism of cell migration at the systems level | CARNEGIE-MELLON UNIVERSITY | R35 | 2020 | 0.13 |
| Computational Modeling of Heterogeneous Gene Expression in Single Cells | UNIV OF NORTH CAROLINA CHAPEL HILL | F31 | 2017 | 0.13 |
| 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 |

**Cluster 10:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| AUTOMATED KNOWLEDGE EXTRACTION FOR BIOMEDICAL LITERATURE | BRANDEIS UNIVERSITY | R01 | 2003 | 0.046 |
| Beyond Abstracts: Issues in Mining Full Texts | UNIVERSITY OF COLORADO DENVER | R01 | 2008 | 0.046 |
| COMPUTATIONAL THINKING-Casual Inference on Narrative and Structured Temporal Dat | COLUMBIA UNIVERSITY HEALTH SCIENCES | N03 | 2010 | 0.045 |
| ADAPTIVE PERSONALIZED INFORMATION MANAGEMENT FOR BIOLOGISTS | CARNEGIE-MELLON UNIVERSITY | R01 | 2011 | 0.045 |
| Exploring Natural Language Processing, Image Processing, Machine Learning, and Us | UNIV OF MASSACHUSETTS MED SCH WORCESTER | R01 | 2015 | 0.044 |

**Cluster 11:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Statistical Learning in Language Acquisition | UNIVERSITY OF WISCONSIN-MADISON | R37 | 2019 | 0.22 |
| Statistical approaches to linguistic pattern learning | GEORGETOWN UNIVERSITY | R01 | 2019 | 0.22 |
| 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 |
| "Mechanisms of Early Bilingual Language Acquisition" | UNIVERSITY OF CALIFORNIA AT DAVIS | R03 | 2017 | 0.19 |

**Cluster 12:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.19 |
| Distance-based ab initio protein structure prediction | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2020 | 0.18 |
| New Computational Methods for Data-driven Protein Structure Prediction | TOYOTA TECHNOLOGICAL INSTITUTE / CHICAGO | R01 | 2020 | 0.18 |
| Advanced approaches to protein structure prediction | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R35 | 2020 | 0.17 |
| Towards Accurate Protein Structure Predictions with SAXS Technology (TAPESTRY) | UNIVERSITY OF CALIF-LAWRENC BERKELEY LAB | R01 | 2020 | 0.17 |

**Cluster 13:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multimodal image registration by proxy image synthesis | JOHNS HOPKINS UNIVERSITY | R01 | 2015 | 0.093 |
| Continued Development of CellProfiler Cell Image Analysis Software | BROAD INSTITUTE, INC. | R01 | 2016 | 0.085 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics Tool for Mus | UNIVERSITY OF FLORIDA | R01 | 2018 | 0.078 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics System for Muscle | UNIVERSITY OF FLORIDA | R01 | 2016 | 0.076 |
| Extracting rich information from biological images | BROAD INSTITUTE, INC. | R35 | 2018 | 0.075 |

**Cluster 14:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting causal non-coding variants in a founder population | STANFORD UNIVERSITY | R01 | 2017 | 0.11 |
| Micropublications for Automating Genome Sequence Variant Interpretation from Medical Literature | GENOMENON, INC. | R43 | 2019 | 0.11 |
| Discovering Novel Structural Genomic Rearrangements Using Deep Neural Networks | UNIVERSITY OF MICHIGAN AT ANN ARBOR | F31 | 2020 | 0.11 |
| Regulation of mRNA splicing by intronic genetic variants | INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS | R01 | 2018 | 0.11 |
| Inferring the effects of genetic variants on gene expression and splicing | STANFORD UNIVERSITY | F32 | 2017 | 0.11 |

**Cluster 15:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Motor Learning for the Control of an Assistive Device | REHABILITATION INSTITUTE OF CHICAGO D/B/A SHIRLEY RYAN ABILITYLAB | R21 | 2008 | 0.048 |
| Spinal Epidural Electrode Array To Facilitate Standing and Stepping After SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2018 | 0.045 |
| INTELLIGENT CONTROL OF UPPER EXTREMITY NEURAL PROSTHESES | CLEVELAND CLINIC LERNER COL/MED-CWRU | R21 | 2006 | 0.041 |
| Non-Invasive System for Identifying Neural Behavior | ALTEC, INC. | R01 | 2009 | 0.04 |
| Human and Machine Learning for Customized Control of Assistive Robots | REHABILITATION INSTITUTE OF CHICAGO D/B/A SHIRLEY RYAN ABILITYLAB | R01 | 2019 | 0.037 |

**Cluster 16:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.26 |
| Manifold-valued statistical models for longitudinal morphometic analysis in preclinical Alzheimer's disease (AD) | UNIVERSITY OF WISCONSIN-MADISON | R01 | 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 |
| Understanding the molecular mechanisms that contribute to neuropsychiatric symptoms in Alzheimer Disease | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2020 | 0.23 |
| Computational Prediction and Functional Validation of Novel Risk Loci of Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.23 |

**Cluster 17:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Reliable Seizure Prediction Using Physiological Signals and Machine Learning | MAYO CLINIC ROCHESTER | R01 | 2019 | 0.4 |
| Dynamics of long range network interactions in focal epilepsy | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.35 |
| Trainable Early Warning System for Epileptic Seizures | CHATTEN ASSOCIATES, INC. | R44 | 2006 | 0.34 |
| Algorithm for the Real-Time Detection of Absence Seizures from Oculometric Data | EYSZ, INC. | R43 | 2020 | 0.33 |
| Neurophysiologically Based Responsive Pharmacotherapy for Epilepsy | MAYO CLINIC ROCHESTER | U01 | 2013 | 0.33 |

**Cluster 18:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting brain tumor progression via multiparametric image analysis and modelin | UNIVERSITY OF PENNSYLVANIA | R01 | 2018 | 0.16 |
| MDCT Quantification of hepatic tumor viability for assessment of cancer therapy | IQ MEDICAL IMAGING, LLC | R42 | 2019 | 0.13 |
| Quantitative Multimodal Image Guidance for Improved Liver Cancer Treatment | YALE UNIVERSITY | R01 | 2020 | 0.12 |
| SBIR Phase I Topic 402 - Artificial Intelligence-Aided Imaging for Cancer Prevention, Diagnosis, and Monitoring | PHENOMAPPER, LLC | N43 | 2020 | 0.12 |
| Towards the automation of MR spectroscopic imaging in patients with glioblashoma | EMORY UNIVERSITY | F30 | 2020 | 0.12 |

**Cluster 19:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Automatic Acquisition of Knowledge for Senior Care Planning | MY HEALTH CARE | R44 | 2011 | 0.047 |
| 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 | 0.045 |
| Changing Talk Online (CHATO): A Pragmatic Trial to Reduce Behavioral Symptoms in Dementia Care | UNIVERSITY OF KANSAS MEDICAL CENTER | R61 | 2019 | 0.042 |
| An evaluation of sensor technology to monitor and report compliance with an evidence-based intervention to prevent ventilator-associated pneumonia | JOHNS HOPKINS UNIVERSITY | K23 | 2018 | 0.039 |
| Transforming residential palliative care for persons with dementia through behavioral economics and data science | UNIVERSITY OF PENNSYLVANIA | P30 | 2020 | 0.038 |

**Cluster 20:**

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

**Cluster 21:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.28 |
| Social Media Use and Mechanisms of Suicide Risk in Adolescents | RHODE ISLAND HOSPITAL | K23 | 2020 | 0.26 |
| Mining Social Media Messages for HIV Testing and Prevention Communication | UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN | R01 | 2020 | 0.26 |
| Influencing cervical cancer prevention and detection online through social media | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | R01 | 2016 | 0.25 |
| Leveraging Social Media for Substance Use Behavioral Insight | WASHINGTON UNIVERSITY | K02 | 2020 | 0.23 |

**Cluster 22:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| From Cells to Societies: Mechanisms by Which Microbial Parasites Control Host Phenotypes | PENNSYLVANIA STATE UNIVERSITY-UNIV PARK | R01 | 2020 | 0.11 |
| A new paradigm for quantifying animal behavior in a model genetic system | PRINCETON UNIVERSITY | R01 | 2014 | 0.086 |
| Behavioral, Physiological, and Quantitative Models of Pro-Social Behavior | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2018 | 0.086 |
| The Molecular Underpinnings of Complex Social Behavior | ROCKEFELLER UNIVERSITY | R35 | 2020 | 0.085 |
| Development of an Integrated System for Monitoring Home-Cage Behavior in Non-Human Primates | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.08 |

**Cluster 23:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Towards cortical visual prosthetics | BOSTON CHILDREN'S HOSPITAL | R21 | 2010 | 0.14 |
| Perceptual bases of visual concepts | UNIVERSITY OF IOWA | R01 | 2010 | 0.14 |
| Representation of information across the human visual cortex | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2018 | 0.12 |
| Perceptual Organization and Attention: Behavior & fMRI | JOHNS HOPKINS UNIVERSITY | F31 | 2006 | 0.11 |
| The role of area V4 in the perception and recognition of visual objects | UNIVERSITY OF WASHINGTON | R01 | 2018 | 0.11 |

**Cluster 24:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Intraocular Robotic Interventional Surgical System for Cataract Surgery Project | UNIVERSITY OF CALIFORNIA LOS ANGELES | R21 | 2015 | 0.16 |
| Real-time non-intrusive workload monitoring-Integration of human factors in surgery training and assessment | PURDUE UNIVERSITY | R21 | 2020 | 0.15 |
| Quantifying the Metrics of Surgical Mastery: An Exploration in Data Science | STANFORD UNIVERSITY | R01 | 2020 | 0.14 |
| A Virtual Coach to Enhance Surgical Training using Human-Centric Modeling and Adaptive Haptic Guidance | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.14 |
| Learning-Based Approach for Personalized Craniomaxillofacial Surgical Planning | METHODIST HOSPITAL RESEARCH INSTITUTE | R01 | 2020 | 0.13 |

**Cluster 25:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Digital Monitoring of Agitation for Short-Term Suicide Risk Prediction | MASSACHUSETTS GENERAL HOSPITAL | K23 | 2020 | 0.1 |
| Multimodal Assessment of Near-term Risk Processes for Suicide Ideation and Behavior | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.089 |
| Using multimodal imaging and the RDoC framework to predict risk factors for suicide attempt | YALE UNIVERSITY | R03 | 2020 | 0.087 |
| Predicting Self-Harm, Suicide Attempt, and Suicidal Death using Longitudinal EHR, Claims and Mortality Data | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.085 |
| Innovations in Suicide Prevention Research (INSPIRE) | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.078 |

**Cluster 26:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Tracing the evolution of the human mutation rate | STANFORD UNIVERSITY | F32 | 2017 | 0.27 |
| A statistical framework to systematically characterize cancer driver mutations in noncoding genomic regions | DANA-FARBER CANCER INST | R21 | 2020 | 0.26 |
| Massively parallel functional analyses of human PTEN variants | OREGON HEALTH & SCIENCE UNIVERSITY | F31 | 2019 | 0.25 |
| Functional Annotation of Natural and Disease Variants in Tryosine Kinases | UNIVERSITY OF GEORGIA | R01 | 2020 | 0.24 |
| Computational evaluation of the causal role of somatic mutations in human aging | ALBERT EINSTEIN COLLEGE OF MEDICINE | K99 | 2019 | 0.23 |

**Cluster 27:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| From GWAS to PheWAS: Scanning the EMR phenome for gene-disease associations | VANDERBILT UNIVERSITY | R01 | 2013 | 0.059 |
| Modeling Dimensionality and Genetic Heterogeneity in Schizophrenia | UNIVERSITY OF UTAH | K01 | 2019 | 0.058 |
| Integrative Analysis of Genomic Risk Factors in Juvenile Idiopathic Arthritis | UNIVERSITY OF PENNSYLVANIA | F30 | 2015 | 0.057 |
| Multi-point and multi-locus analysis of genomic association data | CASE WESTERN RESERVE UNIVERSITY | R01 | 2010 | 0.056 |
| Accelerating Curation of GWAS Catalog by Automatic Text Mining | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2015 | 0.054 |

**Cluster 28:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Digital Mammography: Advanced Computer-Aided Breast Can\* | UNIVERSITY OF MICHIGAN | R01 | 2007 | 0.22 |
| Computer-Aided Detection of Urinary Tract Cancer on MDCT Urography | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2014 | 0.21 |
| Improving Breast Cancer Detection and Diagnosis with CAD | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2011 | 0.17 |
| Digital Tomosynthesis Mammography: Computer-Aided Analysis of Masses | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R33 | 2009 | 0.17 |
| DEVELOPMENT OF COMPUTER BASED TECHNIQUES IN MAMMOGRAPHY | UNIVERSITY OF MICHIGAN | R01 | 2000 | 0.16 |

**Cluster 29:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| BRAIN INITIATIVE RESOURCE: DEVELOPMENT OF A HUMAN NEUROELECTROMAGNETIC DATA ARCHIVE AND TOOLS RESOURCE (NEMAR) | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R24 | 2020 | 0.077 |
| Integrative Bioinformatics Approaches to Human Brain Genomics and Connectomics | UNIVERSITY OF PENNSYLVANIA | R01 | 2019 | 0.074 |
| EEGLAB: Software for Analysis of Human Brain Dynamics | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2020 | 0.071 |
| C-PAC: A configurable, compute-optimized, cloud-enabled neuroimaging analysis software for reproducible translational and comparative | CHILD MIND INSTITUTE, INC. | R24 | 2020 | 0.069 |
| Bayesian Methods for Localizing Dynamic Brain Activity and Epileptogenic Zones | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | F32 | 2011 | 0.068 |

**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 | 0.25 |
| 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 | 0.23 |

**Cluster 31:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Quantitative Renal Imaging for Kidney Diseases | NORTHEASTERN UNIVERSITY | R21 | 2019 | 0.089 |
| Development and Validation of Radiation-Free Pediatric Renal Function Quantification | STANFORD UNIVERSITY | R01 | 2020 | 0.077 |
| Gadolinium Free Cardiac MR Imaging of Scar and Fibrosis | BETH ISRAEL DEACONESS MEDICAL CENTER | R01 | 2020 | 0.077 |
| Functional Cardiovascular 4D MRI in Congenital Heart Disease | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2020 | 0.075 |
| Reliable and Robust ECG Gating Signal for MR Imaging | PERINATRONICS MEDICAL SYSTEMS, INC. | R43 | 2002 | 0.071 |

**Cluster 32:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Smartband/smartphone-based automatic smoking detection and real time mindfulness intervention | YALE UNIVERSITY | R34 | 2020 | 0.14 |
| Neural basis of smoking relapse | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.12 |
| Real-time fMRI neurofeedback of large-scale network dynamics in opioid use disorder | YALE UNIVERSITY | R21 | 2020 | 0.12 |
| Project FIGARO - Factors Important to Gather for Anticipating Relapses for Opioids | BEHAIVIOR, LLC | R43 | 2018 | 0.12 |
| Smoking Cessation Coach--An Internet Tailoring Program | JOHNS HOPKINS UNIVERSITY | R21 | 2002 | 0.12 |

**Cluster 33:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Speech Prosody and Articulatory Dynamics in Spoken Language | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2016 | 0.3 |
| Multimodal Speech Translation for Assistive Communication | NORTHEASTERN UNIVERSITY | R21 | 2015 | 0.26 |
| Objectively Quantifying Speech Outcomes of Children with Cleft Palate | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R21 | 2019 | 0.26 |
| A Direct Brain to Speech Generator for use in Humans | NEURAL SIGNALS, INC. | R44 | 2009 | 0.25 |
| Wearable silent speech technology to enhance impaired oral communication | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.25 |

**Cluster 34:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Prenatal and Postnatal Exposure to Environmental Mixtures: Neurodevelopment and DNA Methylation Biomarkers | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2020 | 0.15 |
| Metal mixtures, children's cognition, and sensitive developmental windows | BOSTON UNIVERSITY MEDICAL CAMPUS | R00 | 2017 | 0.14 |
| Prenatal metal mixtures and neurodevelopment: Role of placental extracellular microRNAs | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2020 | 0.13 |
| A DATA SCIENCE APPROACH TO AIR TOXICS AND CHILDREN'S ENVIRONMENTAL HEALTH | COLUMBIA UNIVERSITY HEALTH SCIENCES | R00 | 2020 | 0.13 |
| A Data Science Approach to Air Toxics and Children's Environmental Health | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | K99 | 2018 | 0.13 |

**Cluster 35:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Cerebellar connectivity and error-based learning in infants at risk for autism | WASHINGTON UNIVERSITY | F31 | 2020 | 0.24 |
| Investigating quantitative signatures of autism in toddlers | COLUMBIA UNIVERSITY TEACHERS COLLEGE | R01 | 2020 | 0.23 |
| Neural Correlates of Biological Motion Perception in Children with ASD | SEATTLE CHILDREN'S HOSPITAL | K01 | 2018 | 0.23 |
| Novel video-based approaches for detection of autism risk in the first year of life | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.22 |
| Harmonization for multisite Connectomics: parsing heterogeneity and creating markers in ASD | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.21 |

**Cluster 36:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Systems Level Causal Discovery in Heterogeneous TOPMed Data | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | U01 | 2019 | 0.044 |
| Multi-omic Subtyping of Chronic Obstructive Pulmonary Disease | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.044 |
| Prediction of COPD Progression by PRM | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2020 | 0.042 |
| Clinical significance and genetic determinants of novel imaging measures of emphysema distribution in 9,743 smokers | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.04 |
| Multi-omic networks associated with COPD progression in TOPMed Cohorts | UNIVERSITY OF COLORADO DENVER | R01 | 2020 | 0.035 |

**Cluster 37:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computational methods for modeling lineage-specific gene regulation | STANFORD UNIVERSITY | R01 | 2016 | 0.084 |
| CHARTING THE EPIGENOMIC LANDSCAPE OF HUMAN TRANSPOSABLE ELEMENTS | WASHINGTON UNIVERSITY | R01 | 2015 | 0.075 |
| "Ribonomics" of Gene Regulation to predict Innate Immune Responses | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2017 | 0.069 |
| Genomic Reconstruction of Yeast Transcription Networks | UNIVERSITY OF CALIFORNIA SAN FRANCISCO | R01 | 2006 | 0.068 |
| Integrated multi-omics analyses of early mammalian craniofacial development | UNIVERSITY OF CONNECTICUT SCH OF MED/DNT | R03 | 2020 | 0.061 |

**Cluster 38:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| High Resolution Connectomics of Mammalian Neural Circuits | HARVARD UNIVERSITY | R01 | 2015 | 0.19 |
| Neuromodulatory control of collective circuit dynamics in C. elegans | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.17 |
| Instructive Signals for Motor Learning | STANFORD UNIVERSITY | R01 | 2019 | 0.16 |
| Neural control of skilled movements: an ethological dissection of genetically tractable mammalian motor circuits | SALK INSTITUTE FOR BIOLOGICAL STUDIES | DP2 | 2019 | 0.15 |
| Neural circuits in zebrafish: form, function and plasticity | HARVARD UNIVERSITY | U01 | 2016 | 0.14 |

**Cluster 39:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| 5/5 CAPER: Computerized Assessment of Psychosis Risk | YALE UNIVERSITY | R01 | 2020 | 0.046 |
| Delineating neurobiological heterogeneity in internalizing symptoms using machine learning and deep phenotyping | VANDERBILT UNIVERSITY | R00 | 2020 | 0.045 |
| 4/5 CAPER: Computerized assessment of psychosis risk | UNIVERSITY OF GEORGIA | R01 | 2020 | 0.045 |
| CAPER: Computerized Assessment of Psychosis Risk | TEMPLE UNIV OF THE COMMONWEALTH | R01 | 2020 | 0.044 |
| 1/5 CAPER: Computerized Assessment of ProdromE Risk | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2020 | 0.043 |

**Cluster 40:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 41:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 and Cardiometabolic Health Disparities at the US/Mexico Border: The Nogales Cardiometabolic Health and Sleep (NoCHeS) Study | UNIVERSITY OF ARIZONA | R01 | 2020 | 0.36 |
| 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 |
| Sleep Health Profiles in Middle-aged Workers in Relation to Cardiovascular and Cognitive Health | UNIVERSITY OF SOUTH FLORIDA | R56 | 2020 | 0.35 |
| The Health and Behavioral Effects of Sleep Deprivation Among the Urban Poor in India | UNIVERSITY OF PENNSYLVANIA | K01 | 2020 | 0.35 |

**Cluster 42:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.2 |
| Cognitive and social aspects of decision-making | UNIVERSITY OF COLORADO AT COLORADO SPGS | R15 | 2002 | 0.17 |
| Changes in Multimorbidity and Disability Among Race/Ethnic Older Adults (AD/ADRD-Focused Administrative Supplement) | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2018 | 0.17 |
| Uncovering and Surveilling Financial Deception Risk in Aging | UNIVERSITY OF FLORIDA | R01 | 2020 | 0.16 |
| Uncovering and Surveilling Financial Deception Risk in Aging (Alzheimer's Disease Supplement to 1R01AG057764-01A1) | UNIVERSITY OF FLORIDA | R01 | 2019 | 0.16 |

**Cluster 43:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Natural language processing for clinical and translational research | MAYO CLINIC ROCHESTER | R01 | 2016 | 0.16 |
| Annotation, development and evaluation for clinical information extraction | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2013 | 0.15 |
| Annotation, development and evaluation for clinical information extraction (transfer) | BOSTON CHILDREN'S HOSPITAL | R01 | 2013 | 0.15 |
| Investigating the generalizability of natural language processing of EMR data | KAISER FOUNDATION RESEARCH INSTITUTE | R21 | 2009 | 0.14 |
| Extended Methods and Software Development for Health NLP | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2019 | 0.12 |

**Cluster 44:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Advanced Computational Approaches for NMR Data-mining | BAYLOR COLLEGE OF MEDICINE | R01 | 2020 | 0.083 |
| Optimization and joint modeling for peptide detection by tandem mass spectrometry | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.083 |
| Skyline Targeted Proteomics Environment | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.076 |
| Machine Learning Tools for Discovery and Analysis of Active Metabolic Pathways | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.071 |
| Pacific Northwest Advanced Compound Identification Core | BATTELLE PACIFIC NORTHWEST LABORATORIES | U2C | 2020 | 0.07 |

**Cluster 45:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| ABCD-USA Consortium: Research Project | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2019 | 0.37 |
| ABCD-USA Consortium:Research Project | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | U01 | 2019 | 0.33 |
| ABCD-USA Consortium: Data Analysis Center | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U24 | 2019 | 0.27 |
| Using Machine Learning Approaches to Examine Emotion-Related Brain Activity and Substance Use Among Adolescents | GEORGE MASON UNIVERSITY | F31 | 2020 | 0.26 |
| Predicting Substance Use and Related Antisocial Behavior with Psychiatric, Socioeconomic, and Brain Measures in Women Offenders | UNIVERSITY OF NEW MEXICO | F31 | 2020 | 0.23 |

**Cluster 46:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Gene-Gene Interactions and Their Functional Roles in Prostate Cancer Aggressiveness | LSU HEALTH SCIENCES CENTER | R21 | 2017 | 0.27 |
| Genetic & epigenetic analysis of angiogenesis genes in recurrent prostate cancer | H. LEE MOFFITT CANCER CTR & RES INST | R01 | 2012 | 0.27 |
| CLINICAL AND EPIDEMIOLOGICAL CENTER--PROSTATE CANCER | JOHNS HOPKINS UNIVERSITY | U01 | 2004 | 0.26 |
| MRI Imaging and Biomarkers for Early Detection of Aggressive Prostate Cancer | UNIVERSITY OF MIAMI SCHOOL OF MEDICINE | U01 | 2020 | 0.26 |
| Urinary biomarkers for prostate cancer diagnosis and risk assessment | UNIVERSITY OF TEXAS EL PASO | SC1 | 2020 | 0.24 |

**Cluster 47:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Integrated SNP, gene expression and proteomic analysis | EPICENTER SOFTWARE | R44 | 2005 | 0.098 |
| Molecular Genetics of HNPCC | UNIVERSITY OF TX MD ANDERSON CAN CTR | R01 | 2011 | 0.068 |
| Analysis of the Functional Impact of Coding region SNPs | UNIV OF MARYLAND, COLLEGE PARK | R01 | 2010 | 0.058 |
| Statistical and Computational Methods for Systematically Mining the SNP and Gene | UNIVERSITY OF MARYLAND BALTIMORE | R03 | 2008 | 0.054 |
| Flexible statistical machine learning techniques for cancer-related data | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2014 | 0.05 |

**Cluster 48:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| FOUNDATION MODEL OF ANATOMY | UNIVERSITY OF WASHINGTON | R01 | 2002 | 0.0065 |
| MACE - Michigan Alliance for Cheminformatic Exploration | UNIVERSITY OF MICHIGAN | P20 | 2007 | 0.0046 |
| VOICE RESPONSE/INTERNET REGISTRATION & RANDOMIZATION | RHO FEDERAL SYSTEMS DIVISION, INC. | R44 | 2002 | 0.0046 |
| Markov Chain Monte Carlo and Exact Logistic Regression | CYTEL, INC | R44 | 2004 | 0.0035 |
| A Laser-Based Device for Work Site Stability Assessment | AAC INTERNATIONAL | R44 | 2007 | 0.0034 |

**Cluster 49:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| CORA\_TM\_A Personalized Cardiac Counselor for Optimal Therapy | CORNELL UNIVERSITY | R01 | 2018 | 0.035 |
| Identifying Electronic Phenotypes associated with Patient Health Outcomes of Interhospital Transfer Patients | CASE WESTERN RESERVE UNIVERSITY | R15 | 2018 | 0.034 |
| Real-time detection of deviations in clinical care in ICU data streams | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2017 | 0.029 |
| Improving glucose control with advanced technology designed for high risk patients with type 1 diabetes | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2020 | 0.029 |
| Predicting Patient Instability Noninvasively for Nursing Care (PPINNC) | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2014 | 0.028 |

**Cluster 50:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.072 |
| Transcriptomics of Tuberculosis Latency and Reactivation in Primates | TULANE UNIVERSITY OF LOUISIANA | R01 | 2013 | 0.056 |
| Systems Biology of Microbiome-mediated Resilience to Antibiotic-resistant Pathogens | SLOAN-KETTERING INST CAN RESEARCH | U01 | 2020 | 0.055 |
| Effects of Host Metabolic Variation on Antibiotic Susceptibility | RBHS-NEW JERSEY MEDICAL SCHOOL | R00 | 2020 | 0.053 |
| Models for synthesising molecular, clinical and epidemiological data, and transla | U OF L IMPERIAL COL OF SCI/TECHNLGY/MED | U01 | 2018 | 0.052 |

**Cluster 51:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Advancing Physical Activity Measurement Using Pattern Recognition Techniques | UNIVERSITY OF MASSACHUSETTS AMHERST | RC1 | 2010 | 0.26 |
| PAGES: Physical Activity Genomics, Epigenomics/transcriptomics Site | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | U24 | 2020 | 0.24 |
| Novel Analytic Techniques to Assess Physical Activity | UNIVERSITY OF MASSACHUSETTS AMHERST | R01 | 2010 | 0.23 |
| Novel Models to Predict Energy Expenditure and Physical Activity in Preschoolers | BAYLOR COLLEGE OF MEDICINE | R01 | 2013 | 0.23 |
| Machine Learning Algorithms to Measure Physical Activity in Children with Cerebral Palsy | DREXEL UNIVERSITY | R21 | 2017 | 0.22 |

**Cluster 52:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| High Density Association Analysis of Lung Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | R01 | 2010 | 0.27 |
| Lung cancer in East Africa and the relationship to HIV-1 infection: epidemiology, molecular characterization and imaging | CASE WESTERN RESERVE UNIVERSITY | U54 | 2020 | 0.27 |
| EARLY DETECTION OF LUNG CANCER USING METABOLOMIC LIPID PROFILING | RUSH UNIVERSITY MEDICAL CENTER | R21 | 2014 | 0.26 |
| Macro-vasculature: A Novel Image Biomarker of Lung Cance | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.26 |
| A diagnostic model for malignant pulmonary nodules | UNIVERSITY OF MARYLAND BALTIMORE | R21 | 2020 | 0.26 |

**Cluster 53:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Alcohol Use: Nonlinearities in Intraindividual Variables | UNIVERSITY OF SOUTHERN CALIFORNIA | F31 | 2005 | 0.23 |
| Ambulatory assessment of alcohol use, mood dysregulation, and alcohol craving | UNIVERSITY OF MISSOURI-COLUMBIA | R21 | 2014 | 0.23 |
| Mediators and Moderators of a Neighborhood Experiment on Alcohol Use | UNIVERSITY OF MINNESOTA | R21 | 2017 | 0.23 |
| Alcohol Misuse: An Independent Risk Factor that Increases the Incidence and Severity of COVID-19 | RUSH UNIVERSITY MEDICAL CENTER | R24 | 2020 | 0.21 |
| Big data analytics for the evaluation of whole genome sequence and transcriptome data in alcohol research | SCRIPPS RESEARCH INSTITUTE | K25 | 2020 | 0.21 |

**Cluster 54:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.14 |
| MUSC Minority Student Development Program | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R25 | 2008 | 0.14 |
| Fisk University/UIUC-Mayo KnowENG BD2K Center R25 Partnership | FISK UNIVERSITY | R25 | 2019 | 0.14 |
| MBRS IMSD Program at the University of Kansas | UNIVERSITY OF KANSAS LAWRENCE | R25 | 2008 | 0.13 |
| Administrative Supplement Request for Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2016 | 0.13 |

**Cluster 55:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| An Integrative Approach to Drug Repositioning Using Decision Tree Based Machine Learning | WEILL MEDICAL COLL OF CORNELL UNIV | F31 | 2020 | 0.12 |
| A systems analysis of drug tolerance in Mycobacterium tuberculosis | INSTITUTE FOR SYSTEMS BIOLOGY | R01 | 2020 | 0.11 |
| Predicting Drug Cardiotoxicity Targets Using iPSC-Derived Cardiomyocytes and Machine Learning | CORNELL UNIVERSITY | F31 | 2020 | 0.11 |
| Novel computational approaches to predict drug response and combination effects | UT SOUTHWESTERN MEDICAL CENTER | R35 | 2020 | 0.1 |
| Mining health data for drug safety profiles | STANFORD UNIVERSITY | R01 | 2017 | 0.1 |

**Cluster 56:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Acute Respiratory Distress Syndrome after Isolated Traumatic Brain Injury: Platelet Biology, Endothelial Activation, and Mechanical Ventilation | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | K23 | 2020 | 0.15 |
| A Real-Time Computational System for Detecting ARDS Using Ventilator Waveform Data | UNIVERSITY OF CALIFORNIA AT DAVIS | F31 | 2020 | 0.15 |
| Rule Based Semantics and Big Data Based Methods for Early Identification of Patients at Risk of Acute Respiratory Distress Syndrome (ARDS) | COMPUTER TECHNOLOGY ASSOCIATES, INC. | R43 | 2017 | 0.14 |
| Data-Driven Identification of the Acute Respiratory Distress Syndrome | UNIVERSITY OF MICHIGAN AT ANN ARBOR | K01 | 2020 | 0.13 |
| TREAT ECARDS: Translating Evidence into Action: Electronic Clinical Decision Support in ARDS | ALBERT EINSTEIN COLLEGE OF MEDICINE | R18 | 2020 | 0.13 |

**Cluster 57:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| From enrichment to insights | STANFORD UNIVERSITY | R01 | 2020 | 0.12 |
| Semi-supervised Algorithms for Risk Assessment with Noisy EHR Data | HARVARD SCHOOL OF PUBLIC HEALTH | R21 | 2020 | 0.12 |
| National Infrastructure for Standardized and Portable EHR Phenotyping Algorithms | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.12 |
| An Informatics Framework for Discovery and Ascertainment of Drug-Supplement Interactions | UNIVERSITY OF MINNESOTA | R01 | 2020 | 0.1 |
| Patient Medical History Representation, Extraction, and Inference from EHR Data | UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON | R01 | 2018 | 0.1 |

**Cluster 58:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Detection of Glaucoma Progression with Macular OCT Imaging | UNIVERSITY OF CALIFORNIA LOS ANGELES | K23 | 2016 | 0.41 |
| Functional and Structural Optical Coherence Tomography for Glaucoma | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2020 | 0.41 |
| Relationship between Glaucoma and the Three-Dimensional Optic Nerve Head Related Structure | SCHEPENS EYE RESEARCH INSTITUTE | K99 | 2020 | 0.36 |
| A hybrid artificial intelligence framework for glaucoma monitoring | UNIVERSITY OF TENNESSEE HEALTH SCI CTR | R21 | 2020 | 0.36 |
| Diagnostic Innovations in Glaucoma: Clinical Electrophysiology | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R21 | 2008 | 0.35 |

**Cluster 59:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.24 |
| 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 | 0.21 |
| Developing an Artificial Intelligence Chatbot to Promote HIV Testing | YALE UNIVERSITY | R21 | 2020 | 0.21 |