**Cluster 0**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting Heterogeneous Neurodevelopmental Outcomes in School-age Children with Early Caregiving Adversities | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2020 | 0.075 |
| Development of clinical decision tools for management of diarrhea of children in high and low resource settings | UNIVERSITY OF UTAH | R01 | 2020 | 0.075 |
| Multi-Site Validation Study of the HLHS Arrest Predictor | BAYLOR COLLEGE OF MEDICINE | R01 | 2020 | 0.074 |
| Machine Learning Algorithms to Measure Physical Activity in Children with Cerebral Palsy | DREXEL UNIVERSITY | R21 | 2017 | 0.073 |
| PREDICTING OUTCOME IN CHILDREN WITH NEW-ONSET TICS USING NEUROIMAGING DATA | WASHINGTON UNIVERSITY | R21 | 2016 | 0.07 |

**Cluster 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.094 |
| Gene-Gene Interactions and Their Functional Roles in Prostate Cancer Aggressiveness | LSU HEALTH SCIENCES CENTER | R21 | 2017 | 0.09 |
| MICRORNA BIOMARKERS FOR OROPHARYNGEAL CANCER | UNIVERSITY OF ILLINOIS AT CHICAGO | R01 | 2020 | 0.081 |
| A Federated Galaxy for user-friendly large-scale cancer genomics research | OREGON HEALTH & SCIENCE UNIVERSITY | U24 | 2020 | 0.08 |
| Stephenson Cancer Center - Cancer Center Support Grant | UNIVERSITY OF OKLAHOMA HLTH SCIENCES CTR | P30 | 2020 | 0.078 |

**Cluster 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computational tools for T- and B-cell epitope prediction | UNIVERSITY OF TEXAS MED BR GALVESTON | R01 | 2010 | 0.062 |
| Developing Proteogenomic Mapping for Human Genome Annotation | BOISE STATE UNIVERSITY | R01 | 2011 | 0.062 |
| Reactome IDG portal: Pathway-based analysis and visualization of understudied human proteins | OREGON HEALTH & SCIENCE UNIVERSITY | U01 | 2020 | 0.061 |
| Gene Ontology Consortium | JACKSON LABORATORY | P41 | 2011 | 0.056 |
| Dissecting the roles of superchaperones in type III secretion | MASSACHUSETTS GENERAL HOSPITAL | R21 | 2012 | 0.043 |

**Cluster 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Cerebellar connectivity and error-based learning in infants at risk for autism | WASHINGTON UNIVERSITY | F31 | 2020 | 0.28 |
| Investigating quantitative signatures of autism in toddlers | COLUMBIA UNIVERSITY TEACHERS COLLEGE | R01 | 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 | 0.26 |
| Co-occurring ADHD in young children with ASD: Precursors, detection, neural signatures, and early treatment | DUKE UNIVERSITY | P50 | 2020 | 0.26 |
| Neural Correlates of Biological Motion Perception in Children with ASD | SEATTLE CHILDREN'S HOSPITAL | K01 | 2018 | 0.25 |

**Cluster 4**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Prediction of short-term risk of coronary heart disease and overall risk of ischemic cardiomyopathy | STANFORD UNIVERSITY | F32 | 2018 | 0.054 |
| Improving the Accuracy of ASCVD Risk Estimation Using Population-Level EHR and Genetic Data | BROWN UNIVERSITY | F30 | 2020 | 0.051 |
| eMERGE Phase IV Clinical Center at Partners HealthCare | BRIGHAM AND WOMEN'S HOSPITAL | U01 | 2020 | 0.047 |
| Predicting In-hospital Cardiac Arrest Using Electronic Health Record Data | UNIVERSITY OF CHICAGO | K08 | 2018 | 0.047 |
| A New Hip Fracture Risk Prediction Tool Based on Common Predictors and Hip Geomer | UNIVERSITY OF ARIZONA | R21 | 2012 | 0.047 |

**Cluster 5**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Elucidating host phosphosignaling regulation of Plasmodium vivax liver stage | SEATTLE CHILDREN'S HOSPITAL | R21 | 2020 | 0.045 |
| Comprehensive analysis of human adaptive immune receptors to elucidate correlates of Epstein-Barr virus disease suppression | UNIVERSITY OF KANSAS LAWRENCE | DP5 | 2020 | 0.045 |
| Impact of Gastrointestinal Microbiome on the Host Response to an Effector-Memory T-Cell AIDS Vaccine and Multiple Low-Dose Challenge | NORTH CAROLINA STATE UNIVERSITY RALEIGH | R21 | 2016 | 0.04 |
| Interactions between Gut Microbiome Natural Products and Intestinal Helminths | OREGON STATE UNIVERSITY | R21 | 2019 | 0.04 |
| Fluomics: The Next Generation | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | U19 | 2020 | 0.04 |

**Cluster 6**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.069 |
| Disposable, medication-integrated tactile and motion sensor for glaucoma therapy compliance improvement | RETINAL CARE, INC. | R41 | 2020 | 0.053 |
| Deep Learning and Streaming Analytics for Prediction of Adverse Events in the ICU | UNIVERSITY OF CALIFORNIA, SAN DIEGO | K01 | 2019 | 0.052 |
| Continuous-Signal Driven Predictive Models in Neurological Intensive Care Units | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2012 | 0.052 |
| 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 | 0.052 |

**Cluster 7**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Programmable RNA-targeting CRISPR-Cas tools to study RNA biology | UNIVERSITY OF ROCHESTER | R35 | 2020 | 0.066 |
| Understanding RNA interactions through deep learning modeling of high-throughput biophysical measurements | STANFORD UNIVERSITY | F31 | 2018 | 0.066 |
| New methods for computational modeling of RNA structures | UNIVERSITY OF MISSOURI-COLUMBIA | R35 | 2020 | 0.062 |
| The next generation of RNA-Seq simulators for benchmarking analyses | UNIVERSITY OF PENNSYLVANIA | R21 | 2019 | 0.059 |
| Computational genome-wide RNA profiling using next-generation sequencing | UNIVERSITY OF PENNSYLVANIA | R01 | 2016 | 0.047 |

**Cluster 8**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| PROMOTERS | WASHINGTON UNIVERSITY | R01 | 2018 | 0.09 |
| ANALYSIS OF COMBINATORIAL CIS-REGULATION IN SYNTHETIC AND GENOMIC PROMOTER | WASHINGTON UNIVERSITY | R01 | 2015 | 0.09 |
| Computational Methods for Expression Image Analysis | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R01 | 2013 | 0.087 |
| Integrated SNP, gene expression and proteomic analysis | EPICENTER SOFTWARE | R44 | 2005 | 0.084 |
| Deciphering cellular signaling system by deep mining a comprehensive genomic compendium | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2018 | 0.08 |

**Cluster 9**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Optimization of PET Image Reconstruction for Lesion Detection | MASSACHUSETTS GENERAL HOSPITAL | R03 | 2020 | 0.33 |
| Quantitative Low-Dose PET Imaging | YALE UNIVERSITY | R01 | 2020 | 0.33 |
| Integrated analysis of coronary anatomy and biology with 18F-fluoride PET and CT angiography | CEDARS-SINAI MEDICAL CENTER | R01 | 2020 | 0.28 |
| Multi-modal and Extreme PET/MRI Reconstruction Methods | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | F32 | 2020 | 0.28 |
| Permeability Imaging using Simultaneous Dynamic PET and Arterial Spin Labeling MRI | MASSACHUSETTS GENERAL HOSPITAL | K01 | 2020 | 0.27 |

**Cluster 10**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multimodal image registration by proxy image synthesis | JOHNS HOPKINS UNIVERSITY | R01 | 2015 | 0.089 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics Tool for Mus | UNIVERSITY OF FLORIDA | R01 | 2018 | 0.085 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics System for Muscle | UNIVERSITY OF FLORIDA | R01 | 2016 | 0.085 |
| Continued Development of CellProfiler Cell Image Analysis Software | BROAD INSTITUTE, INC. | R01 | 2016 | 0.083 |
| Advancing algorithms for image-based profiling | BROAD INSTITUTE, INC. | R35 | 2020 | 0.078 |

**Cluster 11**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Resource for Biomedical Ontologies and Knowledge Bases | STANFORD UNIVERSITY | P41 | 2010 | 0.029 |
| COMPUTATIONAL THINKING-Novel Machine Learning Approaches for Automati | NORTHEASTERN UNIVERSITY | N03 | 2010 | 0.018 |
| COMPUTATIONAL THINKING-Developing an Intelligent and Socially Oriented Search Que | UNIVERSITY OF MICHIGAN AT ANN ARBOR | N03 | 2010 | 0.018 |
| COMPUTTIONAL THINKING-An Evidence-Based, Open-Database Approach to Diagnostic Dec | SIMULCONSULT, INC. | N03 | 2010 | 0.017 |
| COMPUTATIONAL THINKING-Computational Thinking to Support Clinicians and Biomedica | SAMSUNG SDS AMERICA, INC. | N03 | 2010 | 0.017 |

**Cluster 12**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Dissecting the mechanism of cell migration at the systems level | CARNEGIE-MELLON UNIVERSITY | R35 | 2020 | 0.13 |
| Single Cell Transcriptomic and Genetic Diversity by Single Molecule Long Read Sequencing | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.12 |
| Systems Analysis of cell type differentiation in Xenopus development | HARVARD MEDICAL SCHOOL | R01 | 2020 | 0.12 |
| Functional and transcriptional analysis of embryonic hematopoietic stem cell development at the single cell level | FRED HUTCHINSON CANCER RESEARCH CENTER | K08 | 2020 | 0.12 |
| Understanding the control mechanisms of 3D cell migration from new dimensions | OREGON STATE UNIVERSITY | R35 | 2020 | 0.12 |

**Cluster 13**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Experimental examinations of the mechanisms that generate the responses of midbra | HARVARD UNIVERSITY | R01 | 2017 | 0.11 |
| "Methods from Computational Topology and Geometry for Analysing Neuronal Tree and Graph Data" | COLD SPRING HARBOR LABORATORY | R01 | 2018 | 0.11 |
| Exocytosis fuels plasma membrane expansion in developing neurons | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.1 |
| Crowd coding in the brain:3D imaging and control of collective neuronal dynamics | UNIV OF MARYLAND, COLLEGE PARK | U01 | 2016 | 0.09 |
| A MOLECULAR CODE FOR CONNECTIVITY IN THE NEOCORTEX | BAYLOR COLLEGE OF MEDICINE | R01 | 2016 | 0.088 |

**Cluster 14**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 |
| Statistical methods for vitamin D targets for functional outcomes in older adults | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2019 | 0.22 |
| Cognitive and social aspects of decision-making | UNIVERSITY OF COLORADO AT COLORADO SPGS | R15 | 2002 | 0.21 |
| Frailty, Statins, and Cardiovascular Disease Burden in Older Adults | HARVARD MEDICAL SCHOOL | R03 | 2019 | 0.21 |

**Cluster 15**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Charting a New Course for Heart Failure: From Discovery to Data | KEYSTONE SYMPOSIA | R13 | 2020 | 0.011 |
| Mentoring and research in applying digital technologies to prevent chronic Illnesses | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | K24 | 2020 | 0.0095 |
| Activity-Aware Prompting to Improve Medication Adherence in Heart Failure Patients | WASHINGTON STATE UNIVERSITY | R21 | 2017 | 0.008 |
| Improving Glycemic Management in Patients with Type 1 Diabetes Using a Context-aware Automated Insulin Delivery System | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2020 | 0.0073 |
| Real-time Monitoring of Zebrafish ECG with Automated Aberrant Pattern Detection | SENSORIIS, INC. | R41 | 2018 | 0.0067 |

**Cluster 16**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Smartband/smartphone-based automatic smoking detection and real time mindfulness intervention | YALE UNIVERSITY | R34 | 2020 | 0.42 |
| An Olfactory Method for Controlling Cigarette Craving | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2017 | 0.37 |
| An Olfactory Method for Controlling Cigarette Craving - Supplement | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2015 | 0.37 |
| Eliminating Tobacco-Related Disparities amount African American Smokers | UNIVERSITY OF UTAH | R01 | 2020 | 0.37 |
| Eliminating Tobacco-Related Disparities among African American Smokers | RICE UNIVERSITY | R01 | 2016 | 0.37 |

**Cluster 17**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Validation and Evaluation of a Portable Body Scanner for Determination of Obesity | UNIVERSITY OF TEXAS, AUSTIN | R21 | 2009 | 0.19 |
| Obesity Prevention in Early Life (OPEL): Risk Screening and Targeted Intervention | INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS | K01 | 2020 | 0.18 |
| Role of Inflammatory Processes in Reward Network Alterations in Obesity | UNIVERSITY OF CALIFORNIA LOS ANGELES | K23 | 2020 | 0.16 |
| Childhood obesity surveillance using electronic health records data | FRED HUTCHINSON CANCER RESEARCH CENTER | R21 | 2017 | 0.16 |
| Shape up! Kids | UNIVERSITY OF HAWAII AT MANOA | R01 | 2020 | 0.16 |

**Cluster 18**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Metal mixtures, children's cognition, and sensitive developmental windows | BOSTON UNIVERSITY MEDICAL CAMPUS | R00 | 2017 | 0.074 |
| Complex Mixtures of Endocrine Disrupting Chemicals in Relation to Cognitive Development | COLUMBIA UNIVERSITY HEALTH SCIENCES | F31 | 2020 | 0.071 |
| Principal Component Pursuit to Assess Exposure to Environmental Mixtures in Epidemiologic Studies | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.064 |
| Spatiotemporal Risk Assessment Modeling of Chemical Mixtures | OREGON STATE UNIVERSITY | K99 | 2019 | 0.058 |
| Novel Biomarker to Identify Critical Windows of Susceptibility to Metal Mixture | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2020 | 0.052 |

**Cluster 19**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.24 |
| Macro-vasculature: A Novel Image Biomarker of Lung Cance | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.23 |
| Lung cancer in East Africa and the relationship to HIV-1 infection: epidemiology, molecular characterization and imaging | CASE WESTERN RESERVE UNIVERSITY | U54 | 2020 | 0.23 |
| Lung Screening: Efficacy versus Effectiveness | BROWN UNIVERSITY | R01 | 2020 | 0.22 |
| A diagnostic model for malignant pulmonary nodules | UNIVERSITY OF MARYLAND BALTIMORE | R21 | 2020 | 0.22 |

**Cluster 20**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.3 |
| Disparities in the Diagnosis of Alzheimer's Disease Among African American and European American Veterans | SEATTLE INST FOR BIOMEDICAL/CLINICAL RES | R56 | 2018 | 0.3 |
| Manifold-valued statistical models for longitudinal morphometic analysis in preclinical Alzheimer's disease (AD) | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2018 | 0.28 |
| Using connectomics to characterize risk for Alzheimer's Disease | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R01 | 2020 | 0.27 |

**Cluster 21**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Intraocular Robotic Interventional Surgical System for Cataract Surgery Project | UNIVERSITY OF CALIFORNIA LOS ANGELES | R21 | 2015 | 0.15 |
| Impact of Crouch Gait and Surgical Treatment on Knee Mechanics and Function | UNIVERSITY OF WISCONSIN-MADISON | R21 | 2016 | 0.14 |
| Quantifying the Metrics of Surgical Mastery: An Exploration in Data Science | STANFORD UNIVERSITY | R01 | 2020 | 0.14 |
| Data-Driven Framework for Classification and Surgical Planning of Spinal Deformity. | CHILDREN'S HOSP OF PHILADELPHIA | R21 | 2020 | 0.13 |
| Real-time non-intrusive workload monitoring-Integration of human factors in surgery training and assessment | PURDUE UNIVERSITY | R21 | 2020 | 0.13 |

**Cluster 22**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.36 |
| 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 |
| Health Informatics to Model the Scott County HIV Outbreak | UNIVERSITY OF GEORGIA | R21 | 2020 | 0.35 |
| Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa | STANFORD UNIVERSITY | R01 | 2020 | 0.34 |
| NeuroAIDS in India | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2011 | 0.34 |

**Cluster 23**

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

**Cluster 24**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Reducing racial disparities in the treatment of opioid use disorder using machine learning-based causal analysis | STANFORD UNIVERSITY | K99 | 2020 | 0.072 |
| Biosignatures of Treatment Remission in Major Depression | COLUMBIA UNIVERSITY HEALTH SCIENCES | U01 | 2015 | 0.067 |
| Telemedicine for Treatment of Opioid Use Disorder | HARVARD MEDICAL SCHOOL | R01 | 2020 | 0.067 |
| RAE (Realize, Analyze, Engage)- A Digital Biomarker Based Detection and Intervention System for Stress and Craving During Recovery from Substance Abuse Disorders | CONTINUEYOU, LLC | R44 | 2019 | 0.065 |
| ABCD-USA Consortium: Research Project | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2019 | 0.064 |

**Cluster 25**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A systems analysis of drug tolerance in Mycobacterium tuberculosis | INSTITUTE FOR SYSTEMS BIOLOGY | R01 | 2020 | 0.15 |
| An Integrative Approach to Drug Repositioning Using Decision Tree Based Machine Learning | WEILL MEDICAL COLL OF CORNELL UNIV | F31 | 2020 | 0.12 |
| Omics data integration and analysis for structure-based multi-target drug design | HUNTER COLLEGE | R01 | 2020 | 0.12 |
| Impacts of a Novel law-enforcement delivered intervention on drug user health | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2020 | 0.11 |
| Computationally modeling the impact of ontogeny on drug metabolic fate | UNIV OF ARKANSAS FOR MED SCIS | R01 | 2019 | 0.11 |

**Cluster 26**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Big Data Coursework for Computational Medicine | WEILL MEDICAL COLL OF CORNELL UNIV | R25 | 2016 | 0.23 |
| Fisk University/UIUC-Mayo KnowENG BD2K Center R25 Partnership | FISK UNIVERSITY | R25 | 2019 | 0.2 |
| Administrative Supplement Request for Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2016 | 0.19 |
| Summer Institute for Statistics of Big Data | UNIVERSITY OF WASHINGTON | R25 | 2016 | 0.17 |
| Developing Cloud-based tools for Big Neural Data | UNIVERSITY OF PENNSYLVANIA | K01 | 2015 | 0.15 |

**Cluster 27**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.23 |
| Improving Diagnosis of Multiple Sclerosis Through the Integration of Novel Imaging and Laboratory Biomarkers | UNIVERSITY OF VERMONT & ST AGRIC COLLEGE | K02 | 2020 | 0.23 |
| Analysis of LC-MS data to identify peptide and glycan biomarkers for hepatocellul | GEORGETOWN UNIVERSITY | R01 | 2014 | 0.21 |
| Sequential Ion/Ion Reactions for Large Peptide and Whole Protein Characterization | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2015 | 0.2 |
| Intelligent Aids for Proteomic Data Mining | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | K25 | 2008 | 0.19 |

**Cluster 28**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.26 |
| Breast Cancer Risk Stratification with Resonant Electrical Impedance Spectroscopy | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R33 | 2010 | 0.25 |

**Cluster 29**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Nasal biomarkers of asthma | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2019 | 0.47 |
| 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 | 0.41 |
| SCH: kHealth: Semantic Multisensory Mobile Approach to Personalized Asthma Care | WRIGHT STATE UNIVERSITY | R01 | 2018 | 0.41 |
| Multifactorial spatiotemporal analyses to evaluate environmental triggers and patient-level clinical characteristics of severe asthma exacerbations in children | DUKE UNIVERSITY | R21 | 2020 | 0.41 |

**Cluster 30**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.1 |
| 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 | 0.097 |
| Better Outcomes for Children: Promoting Excellence in Healthcare Genomics to Inform Policy | CINCINNATI CHILDRENS HOSP MED CTR | U01 | 2019 | 0.095 |
| Applying NLP to Free Text as an EHR Data Capture Method to Improve EHR Usability | ZYDOC MEDICAL TRANSCRIPTION, LLC | R43 | 2012 | 0.091 |

**Cluster 31**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Automated Facial Expression Analysis for Research and Clinical Use | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2016 | 0.31 |
| FACIAL EXPRESSION ANALYSIS BY IMAGE PROCESSING | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2005 | 0.3 |
| Modeling the Nonmanuals in American Sign Language | PURDUE UNIVERSITY | R01 | 2008 | 0.29 |
| COMPUTER VISION ANALYSIS OF DYNAMIC FACIAL BEHAVIOR | UNIVERSITY OF CALIFORNIA SAN DIEGO | F32 | 2001 | 0.27 |
| Craniofacial Microsmia: Facial Expression from Ages 1 to 3 Years | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R03 | 2018 | 0.25 |

**Cluster 32**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.12 |
| Sleep and Cardiometabolic Health Disparities at the US/Mexico Border: The Nogales Cardiometabolic Health and Sleep (NoCHeS) Study | UNIVERSITY OF ARIZONA | R01 | 2020 | 0.12 |
| An automated and massively scalable platform for organismal and developmental genetics | GEORGIA INSTITUTE OF TECHNOLOGY | F31 | 2018 | 0.11 |
| Enhanced Measurement and Modeling of Sleep Electrophysiology to Better Understand Sleep Disparities | BRIGHAM AND WOMEN'S HOSPITAL | R21 | 2020 | 0.11 |
| 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 | 0.11 |

**Cluster 33**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting brain tumor progression via multiparametric image analysis and modelin | UNIVERSITY OF PENNSYLVANIA | R01 | 2018 | 0.2 |
| Quantitative Multimodal Image Guidance for Improved Liver Cancer Treatment | YALE UNIVERSITY | R01 | 2020 | 0.14 |
| Automatic Volumetric Treatment Response Assessment and Determination of Regional Genetic Characteristics in Glioblastoma | HARVARD MEDICAL SCHOOL | F30 | 2020 | 0.14 |
| MDCT Quantification of hepatic tumor viability for assessment of cancer therapy | IQ MEDICAL IMAGING, LLC | R42 | 2019 | 0.14 |
| Exploring the Role of Mitochondrial Fission in Pancreatic Tumorigenesis | UNIVERSITY OF VIRGINIA | R01 | 2017 | 0.14 |

**Cluster 34**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Novel Statistical Methods for Human Gene Mapping | EMORY UNIVERSITY | R01 | 2010 | 0.045 |
| Statistical Methods in Trans-Omics Chronic Disease Research | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.044 |
| Statistical Models for Dissecting Human Population Admixture and its Role in Evolution and Disease | UNIVERSITY OF CALIFORNIA LOS ANGELES | R35 | 2020 | 0.039 |
| Data-Driven Statistical Learning with Applications to Genomics | UNIVERSITY OF WASHINGTON | DP5 | 2018 | 0.039 |
| Mathematical Models and Statistical Methods for Large-Scale Population Genomics | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2018 | 0.038 |

**Cluster 35**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.21 |
| 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 | 0.2 |

**Cluster 36**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Spinal Epidural Electrode Array To Facilitate Standing and Stepping After SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2018 | 0.18 |
| Enabling forelimb function with agonist drug and epidural stimulation in SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2017 | 0.17 |
| A Theranostic Tool to Assess and Enable Spared Spinal Motor Function After SCI | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2014 | 0.17 |
| Restoring arm and hand motor function with non-invasive spinal stimulation. | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2013 | 0.17 |
| Spinal Epidural Electrode Array to Facilitate Standing and Stepping After SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2012 | 0.14 |

**Cluster 37**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Integration of endoscopic and CT data for radiation therapy treatment planning | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2018 | 0.18 |
| Decision support for dose prescription in radiation treatment planning | UNIVERSITY OF NORTH CAROLINA CHARLOTTE | R21 | 2013 | 0.14 |
| Automatic Pelvic Organ Delineation in Prostate Cancer Treatment | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.14 |
| Automatic Organ Segmentation Tool for Radiation Treatment Planning of Cancers | CARINA MEDICAL, LLC | R44 | 2020 | 0.13 |
| Robust BCT for Clinical Use | O. N. DIAGNOSTICS, LLC | R43 | 2010 | 0.13 |

**Cluster 38**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| EDAC: ENCODE Data Analysis Center | UNIV OF MASSACHUSETTS MED SCH WORCESTER | U24 | 2020 | 0.099 |
| The Statistical and Computational Analysis of Flow Cytometry Data | FRED HUTCHINSON CANCER RESEARCH CENTER | R01 | 2011 | 0.076 |
| Predicting Resilience in the Human Microbiome | PALO ALTO VETERANS INSTIT FOR RESEARCH | R01 | 2017 | 0.062 |
| Discovering hidden groups across tuberculosis patient and pathogen genotype data | RENSSELAER POLYTECHNIC INSTITUTE | R01 | 2011 | 0.06 |
| BioMediator: Biologic Data Integration& Analysis System | UNIVERSITY OF WASHINGTON | R01 | 2005 | 0.059 |

**Cluster 39**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Measuring Infant Pain Objectively using Sensor Fusion and Machine Learning Algorithms | AUTONOMOUS HEALTHCARE, INC. | R41 | 2018 | 0.41 |
| Central glutamate signaling in postoperative pain regulation - Renewal | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | R01 | 2020 | 0.4 |
| 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 | 0.39 |
| Autonomous Pain Recognition in Non-Verbal and Critically Ill Patients | UNIVERSITY OF FLORIDA | R21 | 2020 | 0.39 |

**Cluster 40**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Ambulatory assessment of alcohol use, mood dysregulation, and alcohol craving | UNIVERSITY OF MISSOURI-COLUMBIA | R21 | 2014 | 0.29 |
| A Multisite Neurobehavioral Assessment of Fetal Alcohol Spectrum Disorders | SAN DIEGO STATE UNIVERSITY | U01 | 2020 | 0.29 |
| : Complex systems analysis of the impact of alcohol on bone in non-human primates | OREGON STATE UNIVERSITY | R01 | 2020 | 0.29 |
| Alcohol consumption monitoring via a power-free wearable biosensor | LOGICINK CORPORATION | R43 | 2018 | 0.29 |
| Mediators and Moderators of a Neighborhood Experiment on Alcohol Use | UNIVERSITY OF MINNESOTA | R21 | 2017 | 0.28 |

**Cluster 41**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 |
| Improving Suicide Prediction using NLP-Extracted Social Determinants of Health | UNIVERSITY OF MASSACHUSETTS LOWELL | R01 | 2020 | 0.39 |
| Innovations in Suicide Prevention Research (INSPIRE) | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.38 |
| Computerized Adaptive Suicidal Risk Stratification and Prediction | ADAPTIVE TESTING TECHNOLOGIES | R44 | 2020 | 0.38 |
| Digital Monitoring of Agitation for Short-Term Suicide Risk Prediction | MASSACHUSETTS GENERAL HOSPITAL | K23 | 2020 | 0.38 |

**Cluster 42**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| COMMUNICATION AID UTILIZING WORD LEVEL DISAMBIGUATION | MADENTEC (USA), INC. | R44 | 2002 | 0.06 |
| Smart Anatomic Recognition System to Guide Emergency Intubation and Resuscitation | BRIO DEVICE, LLC | R43 | 2013 | 0.057 |
| SBIR Topic 379: DigiBioMarC: Digital BioMarkers for Clinical Impact- Moonshot Project(Fast Track) | MEDABLE, INC. | N43 | 2019 | 0.047 |
| IGF::OT::IGF SBIR Topic 379: DigiBioMarC: Digital BioMarkers for Clinical Impact- Moonshot Project(Fast Track) | MEDABLE, INC. | N01 | 2018 | 0.047 |
| Context Understanding Technology to improve internet accessibility for users with | VORTANT TECHNOLOGIES, LLC | R44 | 2015 | 0.044 |

**Cluster 43**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Improving Breast Cancer Detection and Diagnosis with CAD | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2011 | 0.28 |
| Digital Mammography: Advanced Computer-Aided Breast Can\* | UNIVERSITY OF MICHIGAN | R01 | 2007 | 0.28 |
| Computer-Aided Detection of Urinary Tract Cancer on MDCT Urography | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2014 | 0.25 |
| Digital Tomosynthesis Mammography: Computer-Aided Analysis of Masses | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R33 | 2009 | 0.25 |
| Toward Diagnostics and Therapies of Molecular Subcategories of CAD | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2018 | 0.24 |

**Cluster 44**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Developing and validating prognostic metabolomic signatures of diabetic kidney disease | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2020 | 0.29 |
| Development and Validation of Computational Algorithms to Assess Kidney Health in Electronic Health Records | UNIVERSITY OF FLORIDA | K01 | 2020 | 0.28 |
| Prediction of Major Adverse Kidney Events and Recovery (Pred-MAKER) in COVID-19 Patients | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2020 | 0.26 |
| Defining the Pathogenesis and Prognosis of Human Acute Interstitial Nephritis | YALE UNIVERSITY | R01 | 2020 | 0.25 |
| 2019 STONE LAB SCIENTIFIC SYMPOSIUM: THINKING OUTSIDE THE BOX FOR KIDNEY STONE DISEASE | AMERICAN UROLOGICAL ASSOCIATION | U13 | 2019 | 0.24 |

**Cluster 45**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| International Case Control Study of Malignant Glioma | BAYLOR COLLEGE OF MEDICINE | R01 | 2015 | 0.1 |
| Genome-Wide Association Analysis of Bladder Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | U01 | 2012 | 0.098 |
| Genome Wide Association Study of Head and Neck Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | R01 | 2013 | 0.093 |
| Genetic Factors in Keratoconus | CEDARS-SINAI MEDICAL CENTER | R01 | 2019 | 0.086 |
| International Cohort Collection for Bipolar Disorder | MASSACHUSETTS GENERAL HOSPITAL | R01 | 2012 | 0.079 |

**Cluster 46**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Non-invasive Single-trial In-vivo Neuroimaging System | COLUMBIA UNIV NEW YORK MORNINGSIDE | R33 | 2007 | 0.092 |
| Improved Methods for Single Subject FMRI Analysis | STANFORD UNIVERSITY | K25 | 2006 | 0.091 |
| New Wavelet-based and Source Separation Methods for fMRI | PRINCETON UNIVERSITY | R01 | 2006 | 0.09 |
| Shifting auditory spatial attention: cognitive and neural mechanisms | UNIVERSITY OF TEXAS SAN ANTONIO | R01 | 2019 | 0.089 |
| Improving the Detection of Activation in High Resolution fMRI using Multivariate | CLEVELAND CLINIC LERNER COM-CWRU | R01 | 2015 | 0.085 |

**Cluster 47**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.32 |
| Intrinsic Cortical Networks and Cognitive Dysfunction in Parkinson???s Disease | UNIVERSITY OF COLORADO DENVER | K02 | 2014 | 0.32 |
| Characterizing Intrinsic Functional Cortical Networks in Parkinson Disease Dementia | UNIVERSITY OF COLORADO DENVER | R21 | 2017 | 0.3 |
| Multi-tissue high-throughput proteomic and genomic study in Parkinson's Disease | WASHINGTON UNIVERSITY | R01 | 2020 | 0.3 |

**Cluster 48**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.09 |
| Enabling Shared Analysis and Processing of Large Neurophysiology Data | KITWARE, INC. | R44 | 2018 | 0.081 |
| Development and Dissemination of Robust Brain MRI Measurement Tools | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2015 | 0.074 |
| A BRAIN Initiative Resource: The Neuroscience Multi-omic Data Archive | UNIVERSITY OF MARYLAND BALTIMORE | R24 | 2020 | 0.07 |
| Brain-wide quantitative mapping of microglia activation | TRANSLUCENCE BIOSYSTEMS, INC. | R43 | 2019 | 0.068 |

**Cluster 49**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Towards cortical visual prosthetics | BOSTON CHILDREN'S HOSPITAL | R21 | 2010 | 0.18 |
| Cue Reliability and Depth Calibration During Space Perception | STATE COLLEGE OF OPTOMETRY | R01 | 2011 | 0.17 |
| Representation of information across the human visual cortex | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2018 | 0.16 |
| A Visual Assessment System for Retinal Function/Drug Discovery | AFASCI, INC. | R41 | 2015 | 0.16 |
| Perceptual bases of visual concepts | UNIVERSITY OF IOWA | R01 | 2010 | 0.16 |

**Cluster 50**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Annotation, development and evaluation for clinical information extraction | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2013 | 0.12 |
| Annotation, development and evaluation for clinical information extraction (transfer) | BOSTON CHILDREN'S HOSPITAL | R01 | 2013 | 0.12 |
| Natural language processing for clinical and translational research | MAYO CLINIC ROCHESTER | R01 | 2016 | 0.12 |
| Encoding and Processing Patient Allergy Information in EHRs | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2016 | 0.1 |
| Open Health Natural Language Processing Collaboratory | MAYO CLINIC ROCHESTER | U01 | 2020 | 0.1 |

**Cluster 51**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Next-Generation Ultrasound Localization Microscopy | UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN | R21 | 2020 | 0.045 |
| Functional Cardiovascular 4D MRI in Congenital Heart Disease | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2020 | 0.044 |
| A New Paradigm for Integrated Analysis of Multiscale Genomic Imaging Datasets | TULANE UNIVERSITY OF LOUISIANA | R21 | 2010 | 0.039 |
| Osteoarthritis: Quantitative Evaluation of Whole Joint Disease with MRI | STANFORD UNIVERSITY | R01 | 2020 | 0.038 |
| Development of a Fast Large Area Multiphoton Exoscope (FLAME) | INFRADERM, LLC | R43 | 2020 | 0.038 |

**Cluster 52**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| CRCNS: Learning the Neural Code for Prosthetic Control | BROWN UNIVERSITY | R01 | 2006 | 0.098 |
| An Intracortical Brain-Computer Interface Model for High Efficiency Development of Closed-Loop Neural Decoding Algorithms | FLORIDA INTERNATIONAL UNIVERSITY | R01 | 2020 | 0.082 |
| STATISTICAL MODELING OF NEURAL INFORMATION ENCODING | MASSACHUSETTS GENERAL HOSPITAL | K02 | 2003 | 0.08 |
| Coding of auditory space in the avian brain | ALBERT EINSTEIN COLLEGE OF MEDICINE | R01 | 2014 | 0.076 |
| Advancing understanding of neural representations of threat perception through a novel predictive coding framework | NORTHEASTERN UNIVERSITY | F32 | 2020 | 0.075 |

**Cluster 53**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Identification of epigenetic subclones in lymphomas and leukemias | WASHINGTON UNIVERSITY | F30 | 2020 | 0.25 |
| Defining Genomic Signatures for Aberrant DNA Methylation in Human Cancers | EMORY UNIVERSITY | R01 | 2013 | 0.24 |
| Signals of Epigenetic Modification in Sjogrens Syndrome | UNIVERSITY OF CALIFORNIA BERKELEY | F31 | 2018 | 0.24 |
| MODELING DNA METHYLATION'S ROLE IN GENE REGULATION | WASHINGTON UNIVERSITY | R01 | 2018 | 0.23 |
| Computational modeling of DNA methylation-mediated gene regulation | WASHINGTON UNIVERSITY | R01 | 2020 | 0.22 |

**Cluster 54**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Metal binding sites in macromolecular structures | UNIVERSITY OF VIRGINIA | R01 | 2019 | 0.22 |
| Quantitative Modeling of Transcription Factor-DNA Binding | UNIVERSITY OF SOUTHERN CALIFORNIA | R35 | 2020 | 0.21 |
| Identification of Transcriptional Factor Binding Sites in Human Promoters | UNIV OF MASSACHUSETTS MED SCH WORCESTER | U01 | 2010 | 0.18 |
| Knowledge-based Analysis of Transcription Factor Binding | WHITEHEAD INSTITUTE FOR BIOMEDICAL RES | F32 | 2005 | 0.17 |
| Defining the multi-dimensional code of zinc finger specificity-Resubmission-1 | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | R01 | 2020 | 0.17 |

**Cluster 55**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting causal non-coding variants in a founder population | STANFORD UNIVERSITY | R01 | 2017 | 0.096 |
| Comprehensive functional characterization and dissection of noncoding regulatory elements and human genetic variation | BROAD INSTITUTE, INC. | UM1 | 2020 | 0.094 |
| High-resolution map of human germline mutation patterns and inference of mutagenic mechanisms | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.093 |
| Leveraging Tissue-Specific Regulatory Grammar to Interpret Human Evolution and Non-coding Variation | HARVARD UNIVERSITY | F32 | 2019 | 0.093 |
| Interrogating regulatory variants by multiplexed genome editing | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R21 | 2019 | 0.092 |

**Cluster 56**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.3 |
| MEDIC ONE STROKE SCALE | UNIVERSITY OF WASHINGTON | K23 | 2003 | 0.3 |

**Cluster 57**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 |
| Advanced approaches to protein structure prediction | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R35 | 2020 | 0.18 |
| Very large datasets and new models to predict and design protein interactions | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2014 | 0.17 |
| PREDOCTORAL FELLOWSHIPS FOR STUDENTS WITH DISABILITIES | PRINCETON UNIVERSITY | F31 | 2004 | 0.16 |
| Integrated Prediction and Validation of Protein Structures | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2018 | 0.16 |

**Cluster 58**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Transforming Patient Safety Event Data into Actionable Insights through Advanced Analytics | MEDSTAR HEALTH RESEARCH INSTITUTE | R01 | 2020 | 0.11 |
| Collaborative Research: Statistical algorithms for anomaly detection and patterns recognition in patient care and safety event reports | VIRGINIA POLYTECHNIC INST AND ST UNIV | R01 | 2019 | 0.11 |
| Collaborative Research: Statistical algorithms for anomaly detection and patterns recognition in patient care and safety event reports | NORTH CAROLINA STATE UNIVERSITY RALEIGH | R01 | 2020 | 0.11 |
| Improving Patient Safety and Clinician Cognitive Support Through eMAR Redesign | MEDSTAR HEALTH RESEARCH INSTITUTE | R01 | 2020 | 0.11 |
| Pharmacovigilence using Natural Language Processing, Statistics, and the EHR | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2012 | 0.1 |

**Cluster 59**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.32 |
| Perception of dysarthric speech: An objective model of dysarthric speech evaluation with actionable outcomes | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R01 | 2020 | 0.31 |