**Cluster 0:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multi-omic Subtyping of Chronic Obstructive Pulmonary Disease | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.41 |
| Autoimmunity as a Mechanism for Atherosclerosis in COPD | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | K23 | 2019 | 0.39 |
| Combined Cardiopulmonary Failure in COPD: SPIROMICS HF | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.38 |
| Machine Learning Development for Subtyping COPD | BRIGHAM AND WOMEN'S HOSPITAL | K25 | 2020 | 0.37 |
| Predictive Modeling with Clinical and Genomic Data in COPD | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2014 | 0.35 |

**Cluster 1:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Coding of auditory space in the avian brain | ALBERT EINSTEIN COLLEGE OF MEDICINE | R01 | 2014 | 0.05 |
| An Intracortical Brain-Computer Interface Model for High Efficiency Development of Closed-Loop Neural Decoding Algorithms | FLORIDA INTERNATIONAL UNIVERSITY | R01 | 2020 | 0.049 |
| Tools for modeling state-dependent sensory encoding by neural populations across spatial and temporal scales | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2019 | 0.048 |
| Top-down control of auditory processing in the cortico-collicular network | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2019 | 0.047 |
| Top-down control of auditory processing in the cortico-collicular network (Administrative Supplement) | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2017 | 0.047 |

**Cluster 2:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Tools for Leveraging High-Resolution MS Detection of Stable Isotope Enrichments to Upgrade the Information Content of Metabolomics Datasets | VANDERBILT UNIVERSITY | U01 | 2020 | 0.0081 |
| Machine Learning Tools for Discovery and Analysis of Active Metabolic Pathways | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.0071 |
| COINSTAC: decentralized, scalable analysis of loosely coupled data | THE MIND RESEARCH NETWORK | R01 | 2018 | 0.0053 |
| COINSTAC: Decentralized, Scalable Analysis of Loosely Coupled Data | GEORGIA STATE UNIVERSITY | R01 | 2019 | 0.0045 |
| FOUNDATION MODEL OF ANATOMY | UNIVERSITY OF WASHINGTON | R01 | 2002 | 0.0029 |

**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 | 0.23 |
| Clinical algorithm for identifying adult autism | UNIVERSITY OF PENNSYLVANIA | R34 | 2015 | 0.22 |
| Novel Computational Analysis of Prosody in ASD and the Broad Autism Phenotype | NORTHWESTERN UNIVERSITY | R03 | 2020 | 0.22 |
| Investigating quantitative signatures of autism in toddlers | COLUMBIA UNIVERSITY TEACHERS COLLEGE | R01 | 2020 | 0.22 |
| Novel computer vision-based assessment of infant-caregiver synchrony as an early level II screening tool for autism | CHILDREN'S HOSP OF PHILADELPHIA | R21 | 2020 | 0.22 |

**Cluster 4:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Dissecting the mechanism of cell migration at the systems level | CARNEGIE-MELLON UNIVERSITY | R35 | 2020 | 0.14 |
| iFACS: Imaging Florescence Activated Cell Sorter to sort cells based on images | NANOCELLECT BIOMEDICAL, INC. | R44 | 2018 | 0.14 |
| Real-time computer vision tracking of stemness | CARNEGIE-MELLON UNIVERSITY | R01 | 2010 | 0.13 |
| Targeting Senescence for Biomarkers and Therapeutics | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | R01 | 2019 | 0.13 |
| CGMP Compliant Closed Cell Culture System for Reproducible De-differentiation of human somatic cells into iPSCs | BIOPICO | R44 | 2020 | 0.12 |

**Cluster 5:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Tracing the evolution of the human mutation rate | STANFORD UNIVERSITY | F32 | 2017 | 0.23 |
| Massively parallel functional analyses of human PTEN variants | OREGON HEALTH & SCIENCE UNIVERSITY | F31 | 2019 | 0.21 |
| A statistical framework to systematically characterize cancer driver mutations in noncoding genomic regions | DANA-FARBER CANCER INST | R21 | 2020 | 0.21 |
| Computational evaluation of the causal role of somatic mutations in human aging | ALBERT EINSTEIN COLLEGE OF MEDICINE | K99 | 2019 | 0.21 |
| Functional Annotation of Natural and Disease Variants in Tryosine Kinases | UNIVERSITY OF GEORGIA | R01 | 2020 | 0.19 |

**Cluster 6:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| ABCD-USA Consortium: Research Project | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2019 | 0.23 |
| ABCD-USA Consortium:Research Project | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | U01 | 2019 | 0.2 |
| Using Machine Learning Approaches to Examine Emotion-Related Brain Activity and Substance Use Among Adolescents | GEORGE MASON UNIVERSITY | F31 | 2020 | 0.18 |
| Predicting Substance Use and Related Antisocial Behavior with Psychiatric, Socioeconomic, and Brain Measures in Women Offenders | UNIVERSITY OF NEW MEXICO | F31 | 2020 | 0.15 |
| ABCD-USA Consortium: Data Analysis Center | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U24 | 2019 | 0.14 |

**Cluster 7:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biological and Information Processing Mechanisms Underlying Autism | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | P50 | 2011 | 0.13 |
| Evaluation of machine learning to mobilize detection and therapy of developmental delay in children | STANFORD UNIVERSITY | R21 | 2018 | 0.11 |
| The development of fluent and automatic reading | UNIVERSITY OF GEORGIA (UGA) | R01 | 2005 | 0.1 |
| THE DEVELOPMENT OF FLUENT AND AUTOMATIC READING | UNIVERSITY OF GEORGIA (UGA) | R01 | 2000 | 0.1 |
| Investigating Brain Connectivity in Autism at the Whole-Brain Level | INDIANA UNIVERSITY BLOOMINGTON | R00 | 2014 | 0.1 |

**Cluster 8:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| National Infrastructure for Standardized and Portable EHR Phenotyping Algorithms | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.11 |
| From enrichment to insights | STANFORD UNIVERSITY | R01 | 2020 | 0.11 |
| Applying NLP to Free Text as an EHR Data Capture Method to Improve EHR Usability | ZYDOC MEDICAL TRANSCRIPTION, LLC | R43 | 2012 | 0.1 |
| Semi-supervised Algorithms for Risk Assessment with Noisy EHR Data | HARVARD SCHOOL OF PUBLIC HEALTH | R21 | 2020 | 0.094 |
| Biases introduced by filtering electronic health records for patients with "complete data" | HARVARD MEDICAL SCHOOL | R01 | 2020 | 0.094 |

**Cluster 9:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| 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 | 0.08 |
| Defining the messenger RNP code in the brain | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.076 |
| New methods for computational modeling of RNA structures | UNIVERSITY OF MISSOURI-COLUMBIA | R35 | 2020 | 0.072 |
| Discovery of Novel RNA Genes in Genomic DNA Sequences | UNIVERSITY OF CALIF-LAWRENC BERKELEY LAB | R01 | 2005 | 0.07 |

**Cluster 10:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.27 |
| Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa | STANFORD UNIVERSITY | R01 | 2020 | 0.25 |
| Developing an artificial intelligence-based mHealth intervention to increase HIV testing in Malaysia | YALE UNIVERSITY | R21 | 2020 | 0.24 |
| Developing an Artificial Intelligence Chatbot to Promote HIV Testing | YALE UNIVERSITY | R21 | 2020 | 0.24 |
| Gene Network Identification and Integration (GNetii) Approach to Understanding the Biology Underlying HIV and Drug Abuse. | RESEARCH TRIANGLE INSTITUTE | R01 | 2020 | 0.23 |

**Cluster 11:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Metal mixtures, children's cognition, and sensitive developmental windows | BOSTON UNIVERSITY MEDICAL CAMPUS | R00 | 2017 | 0.19 |
| Spatiotemporal Risk Assessment Modeling of Chemical Mixtures | OREGON STATE UNIVERSITY | K99 | 2019 | 0.18 |
| Novel Biomarker to Identify Critical Windows of Susceptibility to Metal Mixture | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2020 | 0.16 |
| Principal Component Pursuit to Assess Exposure to Environmental Mixtures in Epidemiologic Studies | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.16 |
| Bringing Modern Data Science Tools to Bear on Environmental Mixtures | RICE UNIVERSITY | R01 | 2020 | 0.15 |

**Cluster 12:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.36 |
| Trainable Early Warning System for Epileptic Seizures | CHATTEN ASSOCIATES, INC. | R44 | 2006 | 0.35 |
| Algorithm for the Real-Time Detection of Absence Seizures from Oculometric Data | EYSZ, INC. | R43 | 2020 | 0.34 |
| Seizure Prediction in a Rodent Model of Focal Epilepsy | HARVARD MEDICAL SCHOOL | F31 | 2018 | 0.34 |

**Cluster 13:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 |
| Exploring the Role of Mitochondrial Fission in Pancreatic Tumorigenesis | UNIVERSITY OF VIRGINIA | R01 | 2017 | 0.15 |
| Quantitative Multimodal Image Guidance for Improved Liver Cancer Treatment | YALE UNIVERSITY | R01 | 2020 | 0.15 |
| Quantitative Image Modeling for Brain Tumor Analysis and Tracking | OLD DOMINION UNIVERSITY | R01 | 2019 | 0.14 |
| Engineering personalized micro-tumor ecosystems | BRIGHAM AND WOMEN'S HOSPITAL | U01 | 2020 | 0.14 |

**Cluster 14:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.21 |
| New Computational Methods for Data-driven Protein Structure Prediction | TOYOTA TECHNOLOGICAL INSTITUTE / CHICAGO | R01 | 2020 | 0.2 |
| Distance-based ab initio protein structure prediction | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2020 | 0.19 |
| Advanced approaches to protein structure prediction | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R35 | 2020 | 0.19 |
| Towards Accurate Protein Structure Predictions with SAXS Technology (TAPESTRY) | UNIVERSITY OF CALIF-LAWRENC BERKELEY LAB | R01 | 2020 | 0.18 |

**Cluster 15:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.29 |
| MRI Imaging and Biomarkers for Early Detection of Aggressive Prostate Cancer | UNIVERSITY OF MIAMI SCHOOL OF MEDICINE | U01 | 2020 | 0.28 |
| Genetic & epigenetic analysis of angiogenesis genes in recurrent prostate cancer | H. LEE MOFFITT CANCER CTR & RES INST | R01 | 2012 | 0.28 |
| CLINICAL AND EPIDEMIOLOGICAL CENTER--PROSTATE CANCER | JOHNS HOPKINS UNIVERSITY | U01 | 2004 | 0.27 |
| Urinary biomarkers for prostate cancer diagnosis and risk assessment | UNIVERSITY OF TEXAS EL PASO | SC1 | 2020 | 0.26 |

**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 | 0.27 |
| Circadian Organization and Disorder in Alzheimer's Disease | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.25 |
| Novel Approaches to Identifying and Engaging Disadvantaged Patients with Alzheimer’s Disease (AD) in Clinical Research | UNIVERSITY OF WISCONSIN-MADISON | K76 | 2020 | 0.25 |
| Genetic Predictors, Transcriptomic Biomarkers, & Neurobiological Signatures of Resilience to Alzheimer's Disease | UPSTATE MEDICAL UNIVERSITY | R01 | 2020 | 0.24 |
| Computational Prediction and Functional Validation of Novel Risk Loci of Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.24 |

**Cluster 17:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.26 |
| A Noninvasive, Precision Medicine Approach to Improve Breast Cancer Screening Using Cell-free RNA from Saliva. | PRIME GENOMICS, INC. | R43 | 2019 | 0.26 |
| Informatics Techniques to Optimize Mammography for Aging Populations | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2016 | 0.25 |
| Background parenchymal uptake (BPU) on molecular breast imaging as a novel breast cancer risk factor | MAYO CLINIC ROCHESTER | R21 | 2016 | 0.25 |
| Breast Cancer Risk Stratification with Resonant Electrical Impedance Spectroscopy | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R33 | 2010 | 0.23 |

**Cluster 18:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Web-based App to Alleviate Loneliness and Isolation in Older Adults at Home | VIGOROUS MIND, INC. | R43 | 2018 | 0.19 |
| Investigating Sedentary Time In Aging: New Directions Using Technology (iSTAND) | KAISER FOUNDATION HEALTH PLAN OF WASHINGTON | K23 | 2017 | 0.19 |
| A Personalized Health Behavior System to Promote Well-Being in Older Adults | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.18 |
| Cognitive and social aspects of decision-making | UNIVERSITY OF COLORADO AT COLORADO SPGS | R15 | 2002 | 0.18 |
| Understanding and Predicting High-Need, High-Cost Patients among Older Adults | WEILL MEDICAL COLL OF CORNELL UNIV | K99 | 2020 | 0.17 |

**Cluster 19:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Non-Document Text and Display Reader for Visually Impaired Persons | SMITH-KETTLEWELL EYE RESEARCH INSTITUTE | R01 | 2010 | 0.075 |
| Automatic Positioning of Communication Devices and other Essential Equipment for People with Mobility Restrictions | BLUE SKY DESIGNS, INC. | R44 | 2019 | 0.071 |
| Locating and Reading Informational Signs | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2004 | 0.069 |
| Providing Access to Appliance Displays for Visually Impaired Users | SMITH-KETTLEWELL EYE RESEARCH INSTITUTE | R01 | 2015 | 0.069 |
| MobileEye OCR for the Visually Impaired | APPLIED MEDIA ANALYSIS, LLC | R43 | 2006 | 0.066 |

**Cluster 20:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Olfactory and facial markers of developmental risk for psychosis in 22q11 deletion syndrome | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.049 |
| 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 | 0.045 |
| 2/5 CAPER Computerized assessment of psychosis risk | NORTHWESTERN UNIVERSITY | R01 | 2020 | 0.044 |
| 1/5 CAPER: Computerized Assessment of ProdromE Risk | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2020 | 0.044 |

**Cluster 21:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| MODELING DNA METHYLATION'S ROLE IN GENE REGULATION | WASHINGTON UNIVERSITY | R01 | 2018 | 0.33 |
| Computational modeling of DNA methylation-mediated gene regulation | WASHINGTON UNIVERSITY | R01 | 2020 | 0.3 |
| Statistical Models in Epigenomics | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2005 | 0.3 |
| Defining Genomic Signatures for Aberrant DNA Methylation in Human Cancers | EMORY UNIVERSITY | R01 | 2013 | 0.29 |
| A MACHINE LEARNING APPROACH FOR FINE-SCALE GENOME WIDE DNA METHYLATION ANALYSIS | WASHINGTON UNIVERSITY | R21 | 2013 | 0.28 |

**Cluster 22:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Protege: A Knowledge-Engineering Environment for Advancing Biomedical Sciences | STANFORD UNIVERSITY | R01 | 2020 | 0.15 |
| Protege: An Ontology-Development Platform for Biomedical Scientists | STANFORD UNIVERSITY | R01 | 2016 | 0.13 |
| Exploring Natural Language Processing, Image Processing, Machine Learning, and Us | UNIV OF MASSACHUSETTS MED SCH WORCESTER | R01 | 2015 | 0.13 |
| Onto-BioThesaurus: ontological representation of gene/protein names for biomedica | GEORGETOWN UNIVERSITY | R01 | 2009 | 0.13 |
| Automated Integration of Biomedical Knowledge | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2010 | 0.12 |

**Cluster 23:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Statistical approaches to linguistic pattern learning | GEORGETOWN UNIVERSITY | R01 | 2019 | 0.21 |
| Statistical Learning in Language Acquisition | UNIVERSITY OF WISCONSIN-MADISON | R37 | 2019 | 0.2 |
| Distributional Learning in Children with Language Impairment | UNIVERSITY OF IOWA | F31 | 2017 | 0.2 |
| The When to Worry about Language Study (W2W-L): Joint consideration of developmental patterning and neural substrates for enhancing earlyidentification of language impairment | NORTHWESTERN UNIVERSITY | R01 | 2020 | 0.2 |
| Administrative Supplement to The When to Worry about Language Study (W2W-L) | NORTHWESTERN UNIVERSITY | R01 | 2020 | 0.19 |

**Cluster 24:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Automated Assessment of Neurodevelopment in Infants at Risk for Motor Disability | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.091 |
| Structural Development of Human Fetal Brain | CHILDREN'S HOSP OF PHILADELPHIA | R01 | 2020 | 0.09 |
| Continued Development of Infant Brain Analysis Tools | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.078 |
| Predicting life-threatening events in CHIME infant data | CLARKSON UNIVERSITY | R03 | 2003 | 0.076 |
| The microbiome as a potential mediator of socio-economic disparities in preterm infant neurodevelopmental trajectories from NICU discharge to school age | UNIVERSITY OF CHICAGO | UG3 | 2017 | 0.069 |

**Cluster 25:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Transcriptomics of Tuberculosis Latency and Reactivation in Primates | TULANE UNIVERSITY OF LOUISIANA | R01 | 2013 | 0.5 |
| Mentoring in Immunometabolic Dysregulation in TB and TB/HIV | JOHNS HOPKINS UNIVERSITY | K24 | 2020 | 0.48 |
| Identifying individuals at risk of progression to active tuberculosis | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2020 | 0.46 |
| Signature of profiling and staging the progression of TB from infection to disease. | BOSTON UNIVERSITY MEDICAL CAMPUS | R21 | 2020 | 0.46 |
| Discovering hidden groups across tuberculosis patient and pathogen genotype data | RENSSELAER POLYTECHNIC INSTITUTE | R01 | 2011 | 0.44 |

**Cluster 26:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.15 |
| A systems analysis of drug tolerance in Mycobacterium tuberculosis | INSTITUTE FOR SYSTEMS BIOLOGY | R01 | 2020 | 0.13 |
| Novel computational approaches to predict drug response and combination effects | UT SOUTHWESTERN MEDICAL CENTER | R35 | 2020 | 0.13 |
| Pharmacokinetic Tomography for the Measurement of Topical Drug Product Bioequivalence | MASSACHUSETTS GENERAL HOSPITAL | U01 | 2020 | 0.11 |
| Novel deep learning strategy to better predict pharmacological properties of candidate drugs and focus discovery efforts | COLLABORATIVE DRUG DISCOVERY, INC. | R44 | 2020 | 0.1 |

**Cluster 27:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Assisted Identification and Navigation of Early Mental Health Symptoms in Youth | KAISER FOUNDATION RESEARCH INSTITUTE | R56 | 2018 | 0.16 |
| Real-Time Mobile Cognitive Behavioral Intervention for Serious Mental Illness | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.15 |
| Estimating Population Effects in Mental Health Research Using Meta-Analysis | DUKE UNIVERSITY | R00 | 2020 | 0.15 |
| Impact of Telemedicine on Medicare Beneficiaries with Mental Illness | HARVARD MEDICAL SCHOOL | R01 | 2020 | 0.14 |
| Ethical, Legal and Social Implications in the Use of Digital Technology for Mental Health Applications | STANFORD UNIVERSITY | K01 | 2020 | 0.13 |

**Cluster 28:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Restoring arm and hand motor function with non-invasive spinal stimulation. | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2013 | 0.25 |
| A Theranostic Tool to Assess and Enable Spared Spinal Motor Function After SCI | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2014 | 0.25 |
| Spinal Epidural Electrode Array To Facilitate Standing and Stepping After SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2018 | 0.22 |
| Spinal Epidural Electrode Array to Facilitate Standing and Stepping After SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2012 | 0.22 |
| Enabling forelimb function with agonist drug and epidural stimulation in SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2017 | 0.21 |

**Cluster 29:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multi-point and multi-locus analysis of genomic association data | CASE WESTERN RESERVE UNIVERSITY | R01 | 2010 | 0.051 |
| Machine learning to identify predictive SNPs and complex interaction effects | VIRGINIA POLYTECHNIC INST AND ST UNIV | R21 | 2010 | 0.044 |
| Genome-Wide Association Analysis of Bladder Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | U01 | 2012 | 0.043 |
| From GWAS to PheWAS: Scanning the EMR phenome for gene-disease associations | VANDERBILT UNIVERSITY | R01 | 2013 | 0.039 |
| Computational Methods for Next-Generation GWAS | UNIVERSITY OF OREGON | F32 | 2020 | 0.038 |

**Cluster 30:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.39 |
| 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 | 0.37 |
| Sleep Health Profiles in Middle-aged Workers in Relation to Cardiovascular and Cognitive Health | UNIVERSITY OF SOUTH FLORIDA | R56 | 2020 | 0.36 |
| Sleep and Cardiometabolic Health Disparities at the US/Mexico Border: The Nogales Cardiometabolic Health and Sleep (NoCHeS) Study | UNIVERSITY OF ARIZONA | R01 | 2020 | 0.36 |
| The Health and Behavioral Effects of Sleep Deprivation Among the Urban Poor in India | UNIVERSITY OF PENNSYLVANIA | K01 | 2020 | 0.36 |

**Cluster 31:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Asthma ascertainment and characterization through electronic health records | MAYO CLINIC ROCHESTER | R01 | 2017 | 0.1 |
| OBJECTIVE HOME MANAGEMENT OF PEDIATRIC ASTHMA EXACERBATION USING MOBILE TECHNOLOGY AND MACHINE LEARNING | AUSCULTECH DX, LLC | R41 | 2020 | 0.1 |
| SCH: kHealth: Semantic Multisensory Mobile Approach to Personalized Asthma Care | WRIGHT STATE UNIVERSITY | R01 | 2018 | 0.1 |
| Secondary use of EMR for residency training in asthma care and documentation | MAYO CLINIC ROCHESTER | R21 | 2020 | 0.099 |
| Nasal biomarkers of asthma | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2019 | 0.094 |

**Cluster 32:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multimodal image registration by proxy image synthesis | JOHNS HOPKINS UNIVERSITY | R01 | 2015 | 0.07 |
| Graph-Based Medical Image Segmentation in 3D and 4D | UNIVERSITY OF IOWA | R01 | 2017 | 0.061 |
| Continued Development of CellProfiler Cell Image Analysis Software | BROAD INSTITUTE, INC. | R01 | 2016 | 0.059 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics Tool for Mus | UNIVERSITY OF FLORIDA | R01 | 2018 | 0.057 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics System for Muscle | UNIVERSITY OF FLORIDA | R01 | 2016 | 0.056 |

**Cluster 33:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Real-time non-intrusive workload monitoring-Integration of human factors in surgery training and assessment | PURDUE UNIVERSITY | R21 | 2020 | 0.012 |
| Automatic Counting System for Items Used in Surgery | ROBOTIC SURGICAL TECH, INC. | R43 | 2004 | 0.0085 |
| Long Term Glucose Sensing & Physiologic Insulin Delivery | MEDTRONIC MINIMED | R01 | 2002 | 0.0077 |
| Improving Adherence and Outcomes by Artificial Intelligence-Adapted Text Messages | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R21 | 2015 | 0.0051 |
| A Virtual Coach to Enhance Surgical Training using Human-Centric Modeling and Adaptive Haptic Guidance | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.0049 |

**Cluster 34:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Micropublications for Automating Genome Sequence Variant Interpretation from Medical Literature | GENOMENON, INC. | R43 | 2019 | 0.16 |
| Regulation of mRNA splicing by intronic genetic variants | INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS | R01 | 2018 | 0.14 |
| Comprehensive Characterization of Missense Mutants in Factor IX | BLOODWORKS | R01 | 2020 | 0.14 |
| Predicting causal non-coding variants in a founder population | STANFORD UNIVERSITY | R01 | 2017 | 0.14 |
| Discovering Novel Structural Genomic Rearrangements Using Deep Neural Networks | UNIVERSITY OF MICHIGAN AT ANN ARBOR | F31 | 2020 | 0.14 |

**Cluster 35:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.12 |
| Fisk University/UIUC-Mayo KnowENG BD2K Center R25 Partnership | FISK UNIVERSITY | R25 | 2019 | 0.11 |
| Administrative Supplement Request for Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2016 | 0.11 |
| MUSC Minority Student Development Program | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R25 | 2008 | 0.098 |
| MBRS IMSD Program at the University of Kansas | UNIVERSITY OF KANSAS LAWRENCE | R25 | 2008 | 0.095 |

**Cluster 36:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| CorBand: A novel wearable wrist sensor for heart failure remote monitoring | RETHINK MEDICAL, INC. | R44 | 2017 | 0.14 |
| Automated quantitative CT imaging of epicardial adipose tissue and risk of cardiac events | CEDARS-SINAI MEDICAL CENTER | R01 | 2019 | 0.13 |
| Advanced Heart Failure: Epidemiology and Outcomes | MAYO CLINIC ROCHESTER | R01 | 2020 | 0.13 |
| Transition from Risk Factors to Early HF: Prevalence, Pathogenesis, and Phenomics | WAKE FOREST UNIVERSITY HEALTH SCIENCES | R01 | 2018 | 0.13 |
| Innovative MRI-based Characterization of Cardiac Dyssynchrony | RUTGERS, THE STATE UNIV OF N.J. | R01 | 2018 | 0.12 |

**Cluster 37:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.4 |
| Relationship between Glaucoma and the Three-Dimensional Optic Nerve Head Related Structure | SCHEPENS EYE RESEARCH INSTITUTE | K99 | 2020 | 0.37 |
| Medical Advice from Glaucoma Informatics (MAGI) | UNIVERSITY OF CALIFORNIA SAN DIEGO | R33 | 2005 | 0.36 |
| A hybrid artificial intelligence framework for glaucoma monitoring | UNIVERSITY OF TENNESSEE HEALTH SCI CTR | R21 | 2020 | 0.36 |

**Cluster 38:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biomarker panel to differentiate stroke from stroke mimic | PREDICTION SCIENCES, LLC | R43 | 2008 | 0.31 |
| Sleep apnea after stroke: Implications for screening and treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.3 |
| Fast and Easy Assessment of Stroke | ALVA HEALTH, INC. | R43 | 2019 | 0.29 |
| MEDIC ONE STROKE SCALE | UNIVERSITY OF WASHINGTON | K23 | 2003 | 0.28 |
| Prediction Model for Incident Stroke for Early Screening of an Individual at Risk of Stroke | IHEALTHSCREEN, INC. | R43 | 2018 | 0.28 |

**Cluster 39:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Lung cancer in East Africa and the relationship to HIV-1 infection: epidemiology, molecular characterization and imaging | CASE WESTERN RESERVE UNIVERSITY | U54 | 2020 | 0.25 |
| EARLY DETECTION OF LUNG CANCER USING METABOLOMIC LIPID PROFILING | RUSH UNIVERSITY MEDICAL CENTER | R21 | 2014 | 0.24 |
| High Density Association Analysis of Lung Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | R01 | 2010 | 0.24 |
| Macro-vasculature: A Novel Image Biomarker of Lung Cance | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.23 |
| Histopathology correlated quantitative analysis of lung nodules with LDCT for early detection of lung cancer | UNIVERSITY OF MICHIGAN AT ANN ARBOR | U01 | 2020 | 0.23 |

**Cluster 40:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Optimizing long-term post-polypectomy surveillance for colorectal cancer prevention using a prediction rule developed from a large, community-based cohort | KAISER FOUNDATION RESEARCH INSTITUTE | K07 | 2020 | 0.38 |
| Patient-Centered Comparative Effectiveness of Colorectal Cancer Surveillance in IBD | BAYLOR COLLEGE OF MEDICINE | K08 | 2019 | 0.36 |
| Comprehensive Colorectal Cancer Risk Prediction to Inform Personalized Screening | FRED HUTCHINSON CANCER RESEARCH CENTER | R01 | 2020 | 0.36 |
| Identifying Receipt of Colorectal Cancer Screening | VANDERBILT UNIVERSITY | R21 | 2008 | 0.32 |
| Integrated Genomic Discovery and Functional Validation of Colorectal Cancer Loci | STANFORD UNIVERSITY | U01 | 2015 | 0.32 |

**Cluster 41:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| High Resolution Connectomics of Mammalian Neural Circuits | HARVARD UNIVERSITY | R01 | 2015 | 0.1 |
| Revealing the connectivity and functionality of brain stem circuits | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2016 | 0.1 |
| Supplement request to: Revealing the connectivity and functionality of brain stem circuits | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2015 | 0.1 |
| Neuromodulatory control of collective circuit dynamics in C. elegans | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.097 |
| A MOLECULAR CODE FOR CONNECTIVITY IN THE NEOCORTEX | BAYLOR COLLEGE OF MEDICINE | R01 | 2016 | 0.092 |

**Cluster 42:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Speech Prosody and Articulatory Dynamics in Spoken Language | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2016 | 0.3 |
| Perception of dysarthric speech: An objective model of dysarthric speech evaluation with actionable outcomes | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R01 | 2020 | 0.28 |
| Objectively Quantifying Speech Outcomes of Children with Cleft Palate | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R21 | 2019 | 0.27 |
| Functional Architecture of Speech Motor Cortex | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | U01 | 2018 | 0.26 |
| A Direct Brain to Speech Generator for use in Humans | NEURAL SIGNALS, INC. | R44 | 2009 | 0.26 |

**Cluster 43:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Towards cortical visual prosthetics | BOSTON CHILDREN'S HOSPITAL | R21 | 2010 | 0.16 |
| Perceptual bases of visual concepts | UNIVERSITY OF IOWA | R01 | 2010 | 0.15 |
| The role of area V4 in the perception and recognition of visual objects | UNIVERSITY OF WASHINGTON | R01 | 2018 | 0.15 |
| Representation of information across the human visual cortex | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2018 | 0.15 |
| CRCNS: Neural Reprensentation of Hierarchical Visual Concepts in Natural Scenes | CARNEGIE-MELLON UNIVERSITY | R01 | 2014 | 0.14 |

**Cluster 44:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Digital Mammography: Advanced Computer-Aided Breast Can\* | UNIVERSITY OF MICHIGAN | R01 | 2007 | 0.2 |
| Computer-Aided Detection of Urinary Tract Cancer on MDCT Urography | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2014 | 0.16 |
| DEVELOPMENT OF COMPUTER BASED TECHNIQUES IN MAMMOGRAPHY | UNIVERSITY OF MICHIGAN | R01 | 2000 | 0.14 |
| Improving Breast Cancer Detection and Diagnosis with CAD | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2011 | 0.14 |
| Toward Diagnostics and Therapies of Molecular Subcategories of CAD | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2018 | 0.14 |

**Cluster 45:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| CATcare: Cognitive Assistive Technology for Dementia Homecare | OKLAHOMA STATE UNIVERSITY STILLWATER | R15 | 2019 | 0.096 |
| SPEEKO for Elderspeak: A Self-Monitoring App to Improve Communication and Reduce Behavioral Symptoms in Care for Persons with Alzheimer's Disease and Other Dementias | UNIVERSITY OF KANSAS MEDICAL CENTER | R21 | 2020 | 0.093 |
| Identifying Mechanisms of Dementia: Role for MRI in the Era of Molecular Imaging | MAYO CLINIC ROCHESTER | R01 | 2012 | 0.092 |
| Changing Talk Online (CHATO): A Pragmatic Trial to Reduce Behavioral Symptoms in Dementia Care | UNIVERSITY OF KANSAS MEDICAL CENTER | R61 | 2019 | 0.092 |
| Planning Changing Talk Online (CHATO): a Clinical Trial Testing the Effects of Online Communication Training for Nursing Home Staff on Behavioral and Psychological Symptoms of Residents with Dementia | UNIVERSITY OF KANSAS MEDICAL CENTER | R34 | 2018 | 0.087 |

**Cluster 46:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.076 |
| MICRORNA BIOMARKERS FOR OROPHARYNGEAL CANCER | UNIVERSITY OF ILLINOIS AT CHICAGO | R01 | 2020 | 0.067 |
| Integrative Cancer Genomics: Drivers, Pathways and Drugs | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2016 | 0.067 |
| A Federated Galaxy for user-friendly large-scale cancer genomics research | OREGON HEALTH & SCIENCE UNIVERSITY | U24 | 2020 | 0.066 |
| Transforming family dogs into a powerful and accessible model for human cancer | UNIV OF MASSACHUSETTS MED SCH WORCESTER | R37 | 2020 | 0.057 |

**Cluster 47:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Sepsis Early Prediction and Subphenotype Illumination Study (SEPSIS) | UNIVERSITY OF CHICAGO | R01 | 2019 | 0.29 |
| Sepsis Early Prediction and Subphenotype Illumination Study (SEPSIS) | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2020 | 0.29 |
| Using Big Data to Understand Sepsis in an Immunocompromised Population | UNIVERSITY OF WASHINGTON | F31 | 2020 | 0.28 |
| Enhancing an EMR-Based Real-Time Sepsis Alert System Performance through Machine Learning | WAYNE STATE UNIVERSITY | R21 | 2017 | 0.27 |
| A precision medicine framework to improve long-term outcomes in Sepsis Survivors | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | K23 | 2020 | 0.26 |

**Cluster 48:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Investigating the generalizability of natural language processing of EMR data | KAISER FOUNDATION RESEARCH INSTITUTE | R21 | 2009 | 0.075 |
| Engineering Approach to Individually Tailored Medicine | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2007 | 0.073 |
| A Hybrid General Natural Language Processing Architecture | LOGICAL SEMANTICS, INC. | R43 | 2010 | 0.067 |
| Annotation, development and evaluation for clinical information extraction | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2013 | 0.066 |
| Annotation, development and evaluation for clinical information extraction (transfer) | BOSTON CHILDREN'S HOSPITAL | R01 | 2013 | 0.066 |

**Cluster 49:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| The Nomenclature of Human and Vertebrate Genes | EUROPEAN MOLECULAR BIOLOGY LABORATORY | U24 | 2020 | 0.041 |
| Heuristics to evaluate biomedical and genomic knowledge bases for validity | COLD SPRING HARBOR LABORATORY | R01 | 2020 | 0.038 |
| The Molecular Pathogenesis of Health Disparities in Inf\* | NORTHSHORE UNIVERSITY HEALTHSYSTEM | R01 | 2005 | 0.037 |
| Systems Biology for Studies of Cognition in Down Syndrome | UNIVERSITY OF COLORADO DENVER | R01 | 2012 | 0.036 |
| PATHOGENESIS OF HEALTH DISPARITIES IN PRETERM BIRTH | EVANSTON NORTHWESTERN HEALTHCARE RES INS | R01 | 2001 | 0.036 |

**Cluster 50:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| HashtagHealth: A Social Media Big Data Resource for Neighborhood Effects Research | UNIV OF MARYLAND, COLLEGE PARK | K01 | 2018 | 0.41 |
| Neighborhood Looking Glass: 360 Degree Automated Characterization of the Built Environment for Neighborhood Effects Research | UNIV OF MARYLAND, COLLEGE PARK | R01 | 2020 | 0.36 |
| Using a Natural Experiment to Evaluate the Long-Term Effects of Neighborhood Deprivation on Alzheimer's Disease and Vascular Risk Factors | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | R01 | 2020 | 0.31 |
| Health, Neighborhood Context, and Mobility | UNIVERSITY OF MINNESOTA | R01 | 2020 | 0.29 |
| Big Data and Network Analysis of Children's Health | PENNSYLVANIA STATE UNIVERSITY-UNIV PARK | K01 | 2020 | 0.28 |

**Cluster 51:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Quantitative Low-Dose PET Imaging | YALE UNIVERSITY | R01 | 2020 | 0.38 |
| NeuroExplorer: Ultra-high Performance Human Brain PET Imager for Highly-resolved In Vivo Imaging of Neurochemistry | YALE UNIVERSITY | U01 | 2020 | 0.32 |
| Optimization of PET Image Reconstruction for Lesion Detection | MASSACHUSETTS GENERAL HOSPITAL | R03 | 2020 | 0.28 |
| Simultaneous imaging of myocardial blood flow and glucose metabolism using dynamic 18F-FDG PET | UNIVERSITY OF CALIFORNIA AT DAVIS | R21 | 2017 | 0.27 |
| Imaging and Dosimetry of Yttrium-90 for Personalized Cancer Treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2018 | 0.26 |

**Cluster 52:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| fMRI-based Biomarkers for Multiple Components of Pain | UNIVERSITY OF COLORADO | R01 | 2017 | 0.39 |
| Central glutamate signaling in postoperative pain regulation - Renewal | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | R01 | 2020 | 0.39 |
| Autonomous Pain Recognition in Non-Verbal and Critically Ill Patients | UNIVERSITY OF FLORIDA | R21 | 2020 | 0.38 |
| Development of a Medical Device Utilizing an EEG-Based Algorithm for the Objective Quantification of Pain | PAINQX, INC. | R44 | 2020 | 0.38 |
| Evaluation of Pain in Chronic Pancreatitis using the NAPS2 cohorts | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R21 | 2015 | 0.38 |

**Cluster 53:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.088 |
| Models for synthesising molecular, clinical and epidemiological data, and transla | U OF L IMPERIAL COL OF SCI/TECHNLGY/MED | U01 | 2018 | 0.087 |
| Systems Biology of Microbiome-mediated Resilience to Antibiotic-resistant Pathogens | SLOAN-KETTERING INST CAN RESEARCH | U01 | 2020 | 0.072 |
| Point-of-care antimicrobial susceptibility testing based on simultaneous tracking of multi-phenotypic features of single bacterial cells | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R01 | 2020 | 0.068 |
| Preventing antimicrobial resistance and infections in hospitalized neonates in low resource settings | JOHNS HOPKINS UNIVERSITY | K23 | 2020 | 0.063 |

**Cluster 54:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computational methods for modeling lineage-specific gene regulation | STANFORD UNIVERSITY | R01 | 2016 | 0.17 |
| Integrative analysis tools to dissect cell-type specific transcriptional programs | SLOAN-KETTERING INST CAN RESEARCH | R01 | 2014 | 0.15 |
| Genomic Reconstruction of Yeast Transcription Networks | UNIVERSITY OF CALIFORNIA SAN FRANCISCO | R01 | 2006 | 0.13 |
| Locating Regulatory Elements in Genomes | RUTGERS, THE STATE UNIV OF N.J. | R01 | 2008 | 0.12 |
| Comparative analysis and regulatory architecture of epigenomics datasets | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2017 | 0.12 |

**Cluster 55:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Alcohol Misuse: An Independent Risk Factor that Increases the Incidence and Severity of COVID-19 | RUSH UNIVERSITY MEDICAL CENTER | R24 | 2020 | 0.22 |
| Alcohol Use: Nonlinearities in Intraindividual Variables | UNIVERSITY OF SOUTHERN CALIFORNIA | F31 | 2005 | 0.21 |
| How Cannabis Use Affects Alcohol Treatment Outcomes | PUBLIC HEALTH INSTITUTE | R21 | 2016 | 0.2 |
| Ambulatory assessment of alcohol use, mood dysregulation, and alcohol craving | UNIVERSITY OF MISSOURI-COLUMBIA | R21 | 2014 | 0.2 |
| Estimating BrAC/BAC from Transdermal Alcohol: Combining First-Principles Physiological Models with Machine-Learning to Create Software to Optimally Process and Quantitatively Interpret Biosensor Data | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2020 | 0.18 |

**Cluster 56:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biosignatures of Treatment Remission in Major Depression | COLUMBIA UNIVERSITY HEALTH SCIENCES | U01 | 2015 | 0.17 |
| Epigenetic Transgenerational Endocrine Disruptor Actions | WASHINGTON STATE UNIVERSITY | R01 | 2018 | 0.15 |
| Spatial Epigenomic Profiling of Immune Cell Signatures at Subcellular Resolution in Health and Disease | GEORGIA INSTITUTE OF TECHNOLOGY | K25 | 2020 | 0.1 |
| Role of Epigenetically Active Environmental Compounds in Neurodevelopmental Disorders | SANFORD BURNHAM PREBYS MEDICAL DISCOVERY INSTITUTE | R21 | 2020 | 0.1 |
| Molecular images and machine learning to extract placental function from maternal cfDNA | STANFORD UNIVERSITY | R01 | 2020 | 0.1 |

**Cluster 57:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.44 |
| Predictive modeling: the role of opioid use in suicide risk | KAISER FOUNDATION RESEARCH INSTITUTE | R01 | 2020 | 0.43 |
| Digital Monitoring of Agitation for Short-Term Suicide Risk Prediction | MASSACHUSETTS GENERAL HOSPITAL | K23 | 2020 | 0.43 |
| Innovations in Suicide Prevention Research (INSPIRE) | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.41 |
| Decision Processes of Late-Life Suicide | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2018 | 0.41 |

**Cluster 58:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.5 |
| 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 | 0.48 |
| Institutional Collaboration Between Liverpool STM & CDC on Malaria | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2009 | 0.45 |
| Towards noninvasive diagnosis of malaria | CHILDREN'S HOSP OF PHILADELPHIA | R21 | 2020 | 0.43 |
| Measuring spillover effects of reactive, focal malaria elimination interventions | UNIVERSITY OF CALIFORNIA BERKELEY | K01 | 2020 | 0.42 |

**Cluster 59:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Smartband/smartphone-based automatic smoking detection and real time mindfulness intervention | YALE UNIVERSITY | R34 | 2020 | 0.32 |
| Smoking Cessation Coach--An Internet Tailoring Program | JOHNS HOPKINS UNIVERSITY | R21 | 2002 | 0.29 |
| An Olfactory Method for Controlling Cigarette Craving | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2017 | 0.29 |
| An Olfactory Method for Controlling Cigarette Craving - Supplement | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2015 | 0.29 |
| Eliminating Tobacco-Related Disparities amount African American Smokers | UNIVERSITY OF UTAH | R01 | 2020 | 0.27 |