**Cluster 0:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Advancing Physical Activity Measurement Using Pattern Recognition Techniques | UNIVERSITY OF MASSACHUSETTS AMHERST | RC1 | 2010 | 0.097 |
| Novel Analytic Techniques to Assess Physical Activity | UNIVERSITY OF MASSACHUSETTS AMHERST | R01 | 2010 | 0.089 |
| The Development of a Noninvasive Monitoring System for Cigarette Smoking | UNIVERSITY OF ALABAMA IN TUSCALOOSA | R21 | 2011 | 0.083 |
| Enabling Population-Scale Physical Activity Measurement on Common Mobile Phones | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | U01 | 2010 | 0.079 |
| An Intelligent Physical Activity Monitor | CREARE, INC. | R43 | 2006 | 0.079 |

**Cluster 1:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Scalable tools to effectively translate genomic discoveries into the clinic | BECKMAN RESEARCH INSTITUTE/CITY OF HOPE | R35 | 2020 | 0.1 |
| New Physical Methodologies for Genomic Analysis | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2014 | 0.088 |
| Integrating multidimensional genomic data to discover clinically-relevant predictive models | UNIVERSITY OF ALABAMA AT BIRMINGHAM | R00 | 2020 | 0.082 |
| Conceptualizing Actionability in Clinical Genomic Screening | UNIVERSITY OF PENNSYLVANIA | K99 | 2020 | 0.076 |
| EMR-Linked Biobank for Translational Genomics | GEISINGER CLINIC | U01 | 2019 | 0.074 |

**Cluster 2:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Integrative Cancer Genomics: Drivers, Pathways and Drugs | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2016 | 0.088 |
| A Federated Galaxy for user-friendly large-scale cancer genomics research | OREGON HEALTH & SCIENCE UNIVERSITY | U24 | 2020 | 0.081 |
| MICRORNA BIOMARKERS FOR OROPHARYNGEAL CANCER | UNIVERSITY OF ILLINOIS AT CHICAGO | R01 | 2020 | 0.068 |
| Childhood Cancer Data Initiative National Childhood Cancer Registry Development and Refinement of Algorithm Tools | NATIONAL CANCER INSTITUTE | Y01 | 2020 | 0.062 |
| Developing high-throughput genetic perturbation strategies for single cells in cancer organoids | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | U01 | 2020 | 0.062 |

**Cluster 3:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Neural mechanisms for reducing interference during episodic memory formation | UNIVERSITY OF OREGON | R01 | 2018 | 0.036 |
| Attentional control by uncertainty and reward: parietal and frontal mechanisms | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2016 | 0.032 |
| Computational, Neural, and Behavioral Studies of Competition-Dependent Learning | PRINCETON UNIVERSITY | R01 | 2020 | 0.028 |
| Impulsivity as Immaturity: Mapping Dysmaturation of the Brain's Control Architecture in Youth Externalizing Psychopathology | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.025 |
| CRCNS: Computational and neural mechanisms of memory-guided decisions | PRINCETON UNIVERSITY | R01 | 2018 | 0.024 |

**Cluster 4:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Crowd coding in the brain:3D imaging and control of collective neuronal dynamics | UNIV OF MARYLAND, COLLEGE PARK | U01 | 2016 | 0.098 |
| Neuromodulatory control of collective circuit dynamics in C. elegans | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.09 |
| Revealing the connectivity and functionality of brain stem circuits | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2016 | 0.084 |
| Supplement request to: Revealing the connectivity and functionality of brain stem circuits | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2015 | 0.083 |
| Uncovering Population-Level Cellular Relationships to Behavior via Mesoscale Networks | DUKE UNIVERSITY | R01 | 2019 | 0.076 |

**Cluster 5:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Reliable Seizure Prediction Using Physiological Signals and Machine Learning | MAYO CLINIC ROCHESTER | R01 | 2019 | 0.38 |
| Dynamics of long range network interactions in focal epilepsy | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.34 |
| Trainable Early Warning System for Epileptic Seizures | CHATTEN ASSOCIATES, INC. | R44 | 2006 | 0.33 |
| Algorithm for the Real-Time Detection of Absence Seizures from Oculometric Data | EYSZ, INC. | R43 | 2020 | 0.32 |
| Tracking pre-seizure dynamics to predict and control seizures | STANFORD UNIVERSITY | R01 | 2020 | 0.31 |

**Cluster 6:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| National Infrastructure for Standardized and Portable EHR Phenotyping Algorithms | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.13 |
| From enrichment to insights | STANFORD UNIVERSITY | R01 | 2020 | 0.12 |
| Semi-supervised Algorithms for Risk Assessment with Noisy EHR Data | HARVARD SCHOOL OF PUBLIC HEALTH | R21 | 2020 | 0.11 |
| Biases introduced by filtering electronic health records for patients with "complete data" | HARVARD MEDICAL SCHOOL | R01 | 2020 | 0.1 |
| Advancing Cancer Pharmacoepidemiology Research Through EHRs and Informatics | UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON | U24 | 2020 | 0.094 |

**Cluster 7:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| International Cohort Collection for Bipolar Disorder | MASSACHUSETTS GENERAL HOSPITAL | R01 | 2012 | 0.08 |
| Statistical Tests for Mapping Genetic Determinants of Complex Traits | EMORY UNIVERSITY | R01 | 2019 | 0.075 |
| Fast and Robust Methods for Large Scale Genotype Phenotype Association Study | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2017 | 0.073 |
| Modeling Dimensionality and Genetic Heterogeneity in Schizophrenia | UNIVERSITY OF UTAH | K01 | 2019 | 0.072 |
| Estimating disease risk using genetic data | 23ANDME, INC. | R43 | 2017 | 0.072 |

**Cluster 8:**

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| --- | --- | --- | --- | --- |
| 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 | 0.14 |
| Predicting Drug Cardiotoxicity Targets Using iPSC-Derived Cardiomyocytes and Machine Learning | CORNELL UNIVERSITY | F31 | 2020 | 0.12 |
| A systems analysis of drug tolerance in Mycobacterium tuberculosis | INSTITUTE FOR SYSTEMS BIOLOGY | R01 | 2020 | 0.12 |
| Novel computational approaches to predict drug response and combination effects | UT SOUTHWESTERN MEDICAL CENTER | R35 | 2020 | 0.12 |
| Development of targeted, safe and effective drugs against pancreatic ductal adenocarcinoma (PDAC) by leveraging a novel, comprehensive, computational drug discovery approach | TWOXAR, INC. | R43 | 2018 | 0.11 |

**Cluster 9:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Speech Prosody and Articulatory Dynamics in Spoken Language | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2016 | 0.27 |
| Multimodal Speech Translation for Assistive Communication | NORTHEASTERN UNIVERSITY | R21 | 2015 | 0.24 |
| Speech segregation to improve intelligility of reverberant-noisy speech | OHIO STATE UNIVERSITY | R01 | 2020 | 0.24 |
| Wearable silent speech technology to enhance impaired oral communication | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.24 |
| Perception of dysarthric speech: An objective model of dysarthric speech evaluation with actionable outcomes | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R01 | 2020 | 0.23 |

**Cluster 10:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Digital Mammography: Advanced Computer-Aided Breast Can\* | UNIVERSITY OF MICHIGAN | R01 | 2007 | 0.085 |
| Rapid Comprehensive Cardiac MRI Exam for Diagnosis of Coronary Artery Disease | UNIVERSITY OF MINNESOTA | R01 | 2020 | 0.072 |
| Computer-Aided Detection of Urinary Tract Cancer on MDCT Urography | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2014 | 0.068 |
| Computer-Aided Detection of Pulmonary Embolism on CT Pulmonary Angiography | UNIVERSITY OF MICHIGAN | R21 | 2007 | 0.059 |
| Computerized Visualization and Prediction of Coronary Artery Ischemia | WEILL MEDICAL COLL OF CORNELL UNIV | R21 | 2017 | 0.057 |

**Cluster 11:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Alcohol Use: Nonlinearities in Intraindividual Variables | UNIVERSITY OF SOUTHERN CALIFORNIA | F31 | 2005 | 0.2 |
| Alcohol Misuse: An Independent Risk Factor that Increases the Incidence and Severity of COVID-19 | RUSH UNIVERSITY MEDICAL CENTER | R24 | 2020 | 0.19 |
| A Multisite Neurobehavioral Assessment of Fetal Alcohol Spectrum Disorders | SAN DIEGO STATE UNIVERSITY | U01 | 2020 | 0.19 |
| Ambulatory assessment of alcohol use, mood dysregulation, and alcohol craving | UNIVERSITY OF MISSOURI-COLUMBIA | R21 | 2014 | 0.19 |
| 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 12:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2020 | 0.11 |
| MUSC Minority Student Development Program | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R25 | 2008 | 0.099 |
| Fisk University/UIUC-Mayo KnowENG BD2K Center R25 Partnership | FISK UNIVERSITY | R25 | 2019 | 0.098 |
| Administrative Supplement Request for Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2016 | 0.095 |
| MBRS IMSD Program at the University of Kansas | UNIVERSITY OF KANSAS LAWRENCE | R25 | 2008 | 0.091 |

**Cluster 13:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multimodal image registration by proxy image synthesis | JOHNS HOPKINS UNIVERSITY | R01 | 2015 | 0.093 |
| A New Paradigm for Integrated Analysis of Multiscale Genomic Imaging Datasets | TULANE UNIVERSITY OF LOUISIANA | R21 | 2010 | 0.087 |
| Continued Development of CellProfiler Cell Image Analysis Software | BROAD INSTITUTE, INC. | R01 | 2016 | 0.082 |
| Adaptive Large-Scale Framework for Automatic Biomedical Image Segmentation | UNIVERSITY OF PENNSYLVANIA | R01 | 2018 | 0.076 |
| LATTICE: A Software Platform for Prospective and Retrospective Image Based Translational Research | TRANSLATIONAL IMAGING INNOVATIONS, INC. | R43 | 2019 | 0.072 |

**Cluster 14:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Machine Learning for Integrative Modeling of the Immune System in Clinical Settings | STANFORD UNIVERSITY | R35 | 2020 | 0.14 |
| Role of Myeloid Derived Suppressor Cells in the Immune Response to Surgery | STANFORD UNIVERSITY | K23 | 2017 | 0.14 |
| Deciphering the System-Wide Immune Response to Head and Neck Cancer | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | K23 | 2020 | 0.13 |
| C-Type Lectins and Immune Surveillance in ALD | CLEVELAND CLINIC LERNER COM-CWRU | K99 | 2020 | 0.12 |
| Comprehensive analysis of human adaptive immune receptors to elucidate correlates of Epstein-Barr virus disease suppression | UNIVERSITY OF KANSAS LAWRENCE | DP5 | 2020 | 0.11 |

**Cluster 15:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Central glutamate signaling in postoperative pain regulation - Renewal | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | R01 | 2020 | 0.36 |
| fMRI-based Biomarkers for Multiple Components of Pain | UNIVERSITY OF COLORADO | R01 | 2017 | 0.36 |
| Evaluation of Pain in Chronic Pancreatitis using the NAPS2 cohorts | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R21 | 2015 | 0.36 |
| Cerebral oscillations of pain | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2020 | 0.35 |
| Neuroimaging-based biomarkers for two components of pain | COLUMBIA UNIV NEW YORK MORNINGSIDE | RC1 | 2010 | 0.35 |

**Cluster 16:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| ABCD-USA Consortium: Research Project | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2019 | 0.39 |
| ABCD-USA Consortium:Research Project | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | U01 | 2019 | 0.31 |
| Predicting Substance Use and Related Antisocial Behavior with Psychiatric, Socioeconomic, and Brain Measures in Women Offenders | UNIVERSITY OF NEW MEXICO | F31 | 2020 | 0.26 |
| Using Machine Learning Approaches to Examine Emotion-Related Brain Activity and Substance Use Among Adolescents | GEORGE MASON UNIVERSITY | F31 | 2020 | 0.26 |
| ABCD-USA Consortium: Data Analysis Center | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U24 | 2019 | 0.25 |

**Cluster 17:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Self Correcting Nanoflow LC-MS for Clinical Proteomics | UNIVERSITY OF WASHINGTON | R01 | 2016 | 0.067 |
| Optimization and joint modeling for peptide detection by tandem mass spectrometry | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.062 |
| High-throughput annotation of glycan mass spectra | PALO ALTO RESEARCH CENTER | R01 | 2009 | 0.05 |
| Intelligent Aids for Proteomic Data Mining | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | K25 | 2008 | 0.049 |
| Machine learning analysis of tandem mass spectra | UNIVERSITY OF WASHINGTON | R01 | 2014 | 0.045 |

**Cluster 18:**

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

**Cluster 19:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Transcranial Magnetic Stimulation for Aphasia: Efficacy and Neural Basis | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.098 |
| Extending PhonBank for Clinical Phonology and Speech Analysis | CARNEGIE-MELLON UNIVERSITY | R01 | 2019 | 0.09 |
| A Shared Database for the Study of Phonological Development | CARNEGIE-MELLON UNIVERSITY | R01 | 2016 | 0.09 |
| Developing an Evidence-Based Treatment Continuum for Spoken and Written Language | UNIVERSITY OF ARIZONA | R01 | 2015 | 0.089 |
| Cognitive and Neural Basis of Functional Communication Deficits in Post-Stroke Aphasia | UNIVERSITY OF ALABAMA AT BIRMINGHAM | R01 | 2020 | 0.081 |

**Cluster 20:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| An Expert System to Reduce Depression in Primary Care | PRO-CHANGE BEHAVIOR SYSTEMS, INC. | R44 | 2004 | 0.12 |
| Biosignatures of Treatment Remission in Major Depression | COLUMBIA UNIVERSITY HEALTH SCIENCES | U01 | 2015 | 0.1 |
| Artificial Intelligence in a Mobile Intervention for Depression (AIM) | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2017 | 0.097 |
| Leveraging Artificial Intelligence for the assessment of severity of depressive symptoms | MASSACHUSETTS GENERAL HOSPITAL | R01 | 2020 | 0.096 |
| Human Microbiome and Perinatal Depression | UNIVERSITY OF ILLINOIS AT CHICAGO | R03 | 2019 | 0.082 |

**Cluster 21:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Investigating quantitative signatures of autism in toddlers | COLUMBIA UNIVERSITY TEACHERS COLLEGE | R01 | 2020 | 0.25 |
| Cerebellar connectivity and error-based learning in infants at risk for autism | WASHINGTON UNIVERSITY | F31 | 2020 | 0.23 |
| Novel video-based approaches for detection of autism risk in the first year of life | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.23 |
| Neural Correlates of Biological Motion Perception in Children with ASD | SEATTLE CHILDREN'S HOSPITAL | K01 | 2018 | 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 22:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| CATcare: Cognitive Assistive Technology for Dementia Homecare | OKLAHOMA STATE UNIVERSITY STILLWATER | R15 | 2019 | 0.18 |
| Developing and Evaluating In-Home Supportive Technology for Dementia Caregivers | PEOPLE POWER COMPANY | R44 | 2020 | 0.17 |
| 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 | 0.15 |
| STAR Caregivers - Virtual Training and Follow-up | KAISER FOUNDATION RESEARCH INSTITUTE | R01 | 2020 | 0.15 |
| Changing Talk Online (CHATO): A Pragmatic Trial to Reduce Behavioral Symptoms in Dementia Care | UNIVERSITY OF KANSAS MEDICAL CENTER | R61 | 2019 | 0.15 |

**Cluster 23:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Using Machine Learning to Predict Problematic Prescription Opioid Use and Opioid Overdose | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2019 | 0.25 |
| iTransform: Wearable Biosensors to Detect the Evolution of Opioid Tolerance in Opioid Naïve Individuals | UNIV OF MASSACHUSETTS MED SCH WORCESTER | K23 | 2020 | 0.24 |
| THE PRIMARY OBJECTIVE OF THE PROPOSED PHASE I WORK IS TO FURTHER DEVELOP A PROOF-OF-CONCEPT (POC) MACHINE LEARNING APPROACH TO DETECT ILLEGAL OPIOID SELLERS AND DEVELOP IT INTO AN MVP THAT CAN COLLEC | S-3 RESEARCH, LLC | N43 | 2019 | 0.23 |
| Real-time fMRI neurofeedback of large-scale network dynamics in opioid use disorder | YALE UNIVERSITY | R21 | 2020 | 0.23 |
| Remote vital sign and opioid overdose detection via a non-invasive wearable sensing patch | VIVALNK, INC. | R43 | 2019 | 0.22 |

**Cluster 24:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Application of Machine Vision to Determine the Influence of Sleep States and Social Interactions on Vulnerability to Drug Addiction | JACKSON LABORATORY | 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 |
| Leveraging National Sleep Research Resource Data for Personalized Sleep Profiling | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2020 | 0.1 |
| Sleep and Cardiometabolic Health Disparities at the US/Mexico Border: The Nogales Cardiometabolic Health and Sleep (NoCHeS) Study | UNIVERSITY OF ARIZONA | R01 | 2020 | 0.1 |
| An automated and massively scalable platform for organismal and developmental genetics | GEORGIA INSTITUTE OF TECHNOLOGY | F31 | 2018 | 0.098 |

**Cluster 25:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Study of the Computational Space of Facial Expressions of Emotion | OHIO STATE UNIVERSITY | R01 | 2014 | 0.18 |
| Multi-feature modeling of the neural representation of emotion- and identity-related information derived from facial and vocal cues | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2019 | 0.18 |
| FACIAL EXPRESSION ANALYSIS BY IMAGE PROCESSING | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2005 | 0.15 |
| Multivariate Representations of Emotion | DUKE UNIVERSITY | R21 | 2014 | 0.14 |
| Automated Facial Expression Analysis for Research and Clinical Use | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2016 | 0.14 |

**Cluster 26:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biomarker panel to differentiate stroke from stroke mimic | PREDICTION SCIENCES, LLC | R43 | 2008 | 0.31 |
| Sleep apnea after stroke: Implications for screening and treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.3 |
| Fast and Easy Assessment of Stroke | ALVA HEALTH, INC. | R43 | 2019 | 0.29 |
| Whole Transcriptome Studies of Patients with Transient Ischemic Attacks (TIAs) | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.29 |
| MEDIC ONE STROKE SCALE | UNIVERSITY OF WASHINGTON | K23 | 2003 | 0.27 |

**Cluster 27:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa | STANFORD UNIVERSITY | R01 | 2020 | 0.24 |
| Big Data analytics of HIV treatment gaps in South Carolina: Identification and prediction | UNIVERSITY OF SOUTH CAROLINA AT COLUMBIA | R01 | 2020 | 0.24 |
| Developing an artificial intelligence-based mHealth intervention to increase HIV testing in Malaysia | YALE UNIVERSITY | R21 | 2020 | 0.23 |
| Developing an Artificial Intelligence Chatbot to Promote HIV Testing | YALE UNIVERSITY | R21 | 2020 | 0.22 |
| Gene Network Identification and Integration (GNetii) Approach to Understanding the Biology Underlying HIV and Drug Abuse. | RESEARCH TRIANGLE INSTITUTE | R01 | 2020 | 0.21 |

**Cluster 28:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Neural representation of the geometry and functionality in a scene | JOHNS HOPKINS UNIVERSITY | R01 | 2020 | 0.45 |
| The gist of the space: A space centered approach to visual scene perception | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2015 | 0.42 |
| CRCNS: fMRI Pattern Analysis of Neural Correlates of Natural Scene Categories | STANFORD UNIVERSITY | R01 | 2011 | 0.41 |
| Neural Mechanisms of Fixation Choice while Searching Natural Scenes | NORTHWESTERN UNIVERSITY | R01 | 2015 | 0.32 |
| Neurocognitive basis of attention and eye movement guidance in the real world scenes | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R21 | 2020 | 0.29 |

**Cluster 29:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Cognitive and social aspects of decision-making | UNIVERSITY OF COLORADO AT COLORADO SPGS | R15 | 2002 | 0.18 |
| A Personalized Health Behavior System to Promote Well-Being in Older Adults | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.17 |
| Understanding and Predicting High-Need, High-Cost Patients among Older Adults | WEILL MEDICAL COLL OF CORNELL UNIV | K99 | 2020 | 0.17 |
| Web-based App to Alleviate Loneliness and Isolation in Older Adults at Home | VIGOROUS MIND, INC. | R43 | 2018 | 0.17 |
| Polypharmacy, Potentially Inappropriate Medications, and Adverse Outcomes in Older Adults with Advanced Cancer Receiving Chemotherapy | UNIVERSITY OF ROCHESTER | R03 | 2020 | 0.16 |

**Cluster 30:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Evaluating Longitudinal Changes in the Human Structural Connectome in Relation to Cognitive Aging | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.12 |
| Intrinsic Cortical Networks and Cognitive Dysfunction in Parkinson???s Disease | UNIVERSITY OF COLORADO DENVER | K02 | 2014 | 0.12 |
| Mid-frontal delta/theta rhythms and cognitive control in PD | UNIVERSITY OF IOWA | R01 | 2020 | 0.12 |
| Intrinsic Cortical Networks and Cognitive Dysfunction in Parkinson's Disease | UNIVERSITY OF COLORADO DENVER | K02 | 2017 | 0.12 |
| Comprehensive Multivariable Deep Learning Models to Identify Predictors of Cognitive Change in PD | UNIVERSITY OF ROCHESTER | RF1 | 2020 | 0.11 |

**Cluster 31:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Extended Methods and Software Development for Health NLP | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2019 | 0.15 |
| Annotation, development and evaluation for clinical information extraction | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2013 | 0.14 |
| Annotation, development and evaluation for clinical information extraction (transfer) | BOSTON CHILDREN'S HOSPITAL | R01 | 2013 | 0.14 |
| Natural language processing for clinical and translational research | MAYO CLINIC ROCHESTER | R01 | 2016 | 0.12 |
| Automated domain adaptation for clinical natural language processing | BOSTON CHILDREN'S HOSPITAL | R01 | 2020 | 0.11 |

**Cluster 32:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Tracing the evolution of the human mutation rate | STANFORD UNIVERSITY | F32 | 2017 | 0.23 |
| A statistical framework to systematically characterize cancer driver mutations in noncoding genomic regions | DANA-FARBER CANCER INST | R21 | 2020 | 0.22 |
| Massively parallel functional analyses of human PTEN variants | OREGON HEALTH & SCIENCE UNIVERSITY | F31 | 2019 | 0.21 |
| High-resolution map of human germline mutation patterns and inference of mutagenic mechanisms | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.2 |
| Computational evaluation of the causal role of somatic mutations in human aging | ALBERT EINSTEIN COLLEGE OF MEDICINE | K99 | 2019 | 0.2 |

**Cluster 33:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Enabling Audio-Haptic Interaction with Physical Objects for the Visually Impaired | SMITH-KETTLEWELL EYE RESEARCH INSTITUTE | R01 | 2019 | 0.078 |
| Mobile Search for the Visually Impaired | IQ ENGINES, INC. | R44 | 2013 | 0.074 |
| MobileEye OCR for the Visually Impaired | APPLIED MEDIA ANALYSIS, LLC | R43 | 2006 | 0.068 |
| Vision Without Sight: Exploring the Environment with a Portable Camera | UNIVERSITY OF CALIFORNIA SANTA CRUZ | R21 | 2012 | 0.067 |
| Providing Access to Appliance Displays for Visually Impaired Users | SMITH-KETTLEWELL EYE RESEARCH INSTITUTE | R01 | 2015 | 0.067 |

**Cluster 34:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Pan-vaccine Analysis to Test the Impact of Cytomegalovirus on Vaccine Efficacy | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | UH2 | 2020 | 0.25 |
| Genome Based Influenza Vaccine Strain Selection using Machine Learning | MISSISSIPPI STATE UNIVERSITY | R01 | 2019 | 0.25 |
| Ontology-based Information Network to Support Vaccine Research | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2012 | 0.24 |
| Reproducible Analytics for Secondary Analyses of ImmPort Vaccination-Related Cytometry Data | J. CRAIG VENTER INSTITUTE, INC. | UH2 | 2019 | 0.21 |
| Dynamic learning for post-vaccine event prediction using temporal information in VAERS | UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON | R01 | 2020 | 0.21 |

**Cluster 35:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting Self-Harm, Suicide Attempt, and Suicidal Death using Longitudinal EHR, Claims and Mortality Data | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.5 |
| Distinguishing Clinical and Genetic Risk of Suicidal Ideation from Attempts to Inform Prevention | VANDERBILT UNIVERSITY MEDICAL CENTER | R01 | 2020 | 0.49 |
| Digital Monitoring of Agitation for Short-Term Suicide Risk Prediction | MASSACHUSETTS GENERAL HOSPITAL | K23 | 2020 | 0.48 |
| Harnessing Computerized Adaptive Testing, Transdiagnostic Theories of Suicidal Behavior, and Machine Learning to Advance the Emergent Assessment of Suicidal Youth (EASY). | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.47 |
| Imaging the Suicide Mind using Neurosemantic Signatures as Markers of Suicidal Ideation and Behavior | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.47 |

**Cluster 36:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Quantifying the Metrics of Surgical Mastery: An Exploration in Data Science | STANFORD UNIVERSITY | R01 | 2020 | -0.00048 |
| Development of Ultrasonic Appratus for Dental Diagnosis | AAC INTERNATIONAL | R44 | 2004 | -0.0009 |
| Development of a Machine Learning Model for Liver Transplantation | JOHNS HOPKINS UNIVERSITY | F32 | 2020 | -0.0015 |
| Intelligent Virtual Reality Curriculum for Personalized Surgical Training | OSSO VR, INC. | R43 | 2019 | -0.0022 |
| Inference in Regression Models with Missing Covariates | UNIVERSITY OF NORTH CAROLINA CHAPEL HILL | R01 | 2003 | -0.0023 |

**Cluster 37:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Effect of complex mixtures on oxidative stress and cognition in children | STATE UNIVERSITY OF NEW YORK AT BUFFALO | R01 | 2020 | 0.072 |
| Role of the gut microbiome in pesticide-induced effects on child neurodevelopment | UNIVERSITY OF CALIF-LAWRENC BERKELEY LAB | R01 | 2020 | 0.07 |
| A DATA SCIENCE APPROACH TO AIR TOXICS AND CHILDREN'S ENVIRONMENTAL HEALTH | COLUMBIA UNIVERSITY HEALTH SCIENCES | R00 | 2020 | 0.069 |
| A Data Science Approach to Air Toxics and Children's Environmental Health | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | K99 | 2018 | 0.069 |
| Bringing Modern Data Science Tools to Bear on Environmental Mixtures: Administrative Supplement for U3 Populations | RICE UNIVERSITY | R01 | 2019 | 0.063 |

**Cluster 38:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Understanding RNA interactions through deep learning modeling of high-throughput biophysical measurements | STANFORD UNIVERSITY | F31 | 2018 | 0.035 |
| Computational genome-wide RNA profiling using next-generation sequencing | UNIVERSITY OF PENNSYLVANIA | R01 | 2016 | 0.035 |
| An Automated RNA 3D Structure Determination System | NYMIRUM, INC. | R44 | 2016 | 0.033 |
| Programmable RNA-targeting CRISPR-Cas tools to study RNA biology | UNIVERSITY OF ROCHESTER | R35 | 2020 | 0.032 |
| Structure, function, and dynamics of viral RNAs and RNA-containing complexes | UNIVERSITY OF COLORADO DENVER | R35 | 2020 | 0.032 |

**Cluster 39:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Statistical Models in Epigenomics | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2005 | 0.059 |
| MODELING DNA METHYLATION'S ROLE IN GENE REGULATION | WASHINGTON UNIVERSITY | R01 | 2018 | 0.056 |
| A MACHINE LEARNING APPROACH FOR FINE-SCALE GENOME WIDE DNA METHYLATION ANALYSIS | WASHINGTON UNIVERSITY | R21 | 2013 | 0.053 |
| Point Impact and Sparsity in Functional Data Analysis. | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2014 | 0.051 |
| The Molecular Pathogenesis of Health Disparities in Inf\* | NORTHSHORE UNIVERSITY HEALTHSYSTEM | R01 | 2005 | 0.045 |

**Cluster 40:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Southern California Clinical Center of the Type 1 Diabetes in Acute Pancreatitis Consortium | CEDARS-SINAI MEDICAL CENTER | U01 | 2020 | 0.23 |
| Predicting Diabetic Retinopathy from Risk Factor Data and Digital Retinal Images | CHARLES R. DREW UNIVERSITY OF MED & SCI | R01 | 2019 | 0.22 |
| Clinical, Radiologic and Biochemical Factors Related to Diabetes Development after Acute Pancreatitis | JOHNS HOPKINS UNIVERSITY | U01 | 2020 | 0.2 |
| Validation of Survey Questions to Distinguish Type 1 and Type 2 Diabetes Among Adults With Diabetes | WESTAT, INC. | U01 | 2018 | 0.2 |
| Leveraging modern analytic approaches to improve diabetes outcomes | EMORY UNIVERSITY | K01 | 2020 | 0.18 |

**Cluster 41:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| 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 | 0.047 |
| Predicting Patient Instability Noninvasively for Nursing Care (PPINNC) | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2014 | 0.045 |
| A Protocol-Driven, Digital Conversational Agent at the Hospital Bedside to Support Nurse Teams and to Mitigate Delirium and Falls Risk | CARE.COACH CORPORATION | R44 | 2020 | 0.044 |
| Enhancing an EMR-Based Real-Time Sepsis Alert System Performance through Machine Learning | WAYNE STATE UNIVERSITY | R21 | 2017 | 0.042 |
| Development of Models for the Prediction of Ventilator-Associated Conditions in the Hospital Setting | ORIGENT DATA SCIENCES, INC. | R43 | 2017 | 0.041 |

**Cluster 42:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computerized Radiographic Analysis of Bone Structure | UNIVERSITY OF CHICAGO | R01 | 2005 | 0.25 |
| Multi-Parametric Spatial Assessment of Bone with HR-pQCT | UNIVERSITY OF COLORADO DENVER | R01 | 2020 | 0.18 |
| FOUNDATION MODEL OF ANATOMY | UNIVERSITY OF WASHINGTON | R01 | 2002 | 0.16 |
| OSTEOPOROSIS IN HYPERCALCURIC KIDNEY STONE FORMERS | LITHOLINK CORPORATION | R43 | 2001 | 0.12 |
| The RPI Exploratory Center for Cheminformatics (RMI) | RENSSELAER POLYTECHNIC INSTITUTE | P20 | 2007 | 0.12 |

**Cluster 43:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Vanderbilt Genome-Electronic Records Project | VANDERBILT UNIVERSITY | U01 | 2011 | 0.082 |
| Development and Evaluation of a Learning Electronic Medical Record System | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2018 | 0.079 |
| Using Narrative Data to Enrich the Online Medical Record | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2004 | 0.072 |
| Real-time detection of deviations in clinical care in ICU data streams | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2017 | 0.071 |
| Natural Language Processing to Study Epidemiology of Statin Side Effects | BRIGHAM AND WOMEN'S HOSPITAL | RC1 | 2010 | 0.065 |

**Cluster 44:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Assessing ASL CBF as a biomarker for early Alzheimer's disease detection and disease progression | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2020 | 0.23 |
| Computational Prediction and Functional Validation of Novel Risk Loci of Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.2 |
| Manifold-valued statistical models for longitudinal morphometic analysis in preclinical Alzheimer's disease (AD) | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2018 | 0.19 |
| Computational Prediction and Functional Validation of Novel Epigenetic Risk Loci in Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.19 |
| Sleep and Electroencephalography Biomarkers of Alzheimer's Disease | WASHINGTON UNIVERSITY | R01 | 2020 | 0.18 |

**Cluster 45:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Improving Modeling by Learning from Details of High Accuracy Protein Structures | OREGON STATE UNIVERSITY | R01 | 2015 | 0.22 |
| Integrated Prediction and Validation of Protein Structures | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2018 | 0.22 |
| Advanced approaches to protein structure prediction | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R35 | 2020 | 0.21 |
| New Computational Methods for Data-driven Protein Structure Prediction | TOYOTA TECHNOLOGICAL INSTITUTE / CHICAGO | R01 | 2020 | 0.2 |
| Integrated Prediction of Protein Struture at 1D, 2D and 3D Levels | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2013 | 0.2 |

**Cluster 46:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 0.074 |
| Systems Biology of Microbiome-mediated Resilience to Antibiotic-resistant Pathogens | SLOAN-KETTERING INST CAN RESEARCH | U01 | 2020 | 0.07 |
| New Serological Measures of Infectious Disease Transmission Intensity | UNIVERSITY OF CALIFORNIA BERKELEY | K01 | 2019 | 0.063 |
| Digital High Resolution Melt and Machine Learning for Rapid and Specific Diagnosis in Neonatal Sepsis | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2020 | 0.063 |
| Rapid and broad pathogen profiling system for infection in newborn | MELIOLABS INC. | R43 | 2019 | 0.06 |

**Cluster 47:**

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| --- | --- | --- | --- | --- |
| 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 | 0.11 |
| Lung Screening: Efficacy versus Effectiveness | BROWN UNIVERSITY | R01 | 2020 | 0.1 |
| Macro-vasculature: A Novel Image Biomarker of Lung Cance | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.097 |
| The role of the lung microbiome in oxygen-induced lung injury | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2020 | 0.091 |
| The Effectiveness, Safety, and Costs of Guideline-Concordant Lung Nodule Care | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.091 |

**Cluster 48:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Dissecting the mechanism of cell migration at the systems level | CARNEGIE-MELLON UNIVERSITY | R35 | 2020 | 0.12 |
| Real-time computer vision tracking of stemness | CARNEGIE-MELLON UNIVERSITY | R01 | 2010 | 0.12 |
| Computational Modeling of Heterogeneous Gene Expression in Single Cells | UNIV OF NORTH CAROLINA CHAPEL HILL | F31 | 2017 | 0.12 |
| Symmetry breaking and polarization of cell in 3D environments | UT SOUTHWESTERN MEDICAL CENTER | F32 | 2017 | 0.11 |
| Neuron and Glial Cellular Signatures from Normal and Diseased iPS Cells | UNIVERSITY OF CALIFORNIA-IRVINE | U54 | 2020 | 0.1 |

**Cluster 49:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Protege: A Knowledge-Engineering Environment for Advancing Biomedical Sciences | STANFORD UNIVERSITY | R01 | 2020 | 0.14 |
| Automated Integration of Biomedical Knowledge | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2010 | 0.12 |
| Protege: An Ontology-Development Platform for Biomedical Scientists | STANFORD UNIVERSITY | R01 | 2016 | 0.12 |
| National Center for Biomedical Ontology | STANFORD UNIVERSITY | U54 | 2014 | 0.11 |
| Ontologies and Biomedical Language Processing | UNIVERSITY OF COLORADO DENVER | R01 | 2010 | 0.1 |

**Cluster 50:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Pacific Northwest Advanced Compound Identification Core | BATTELLE PACIFIC NORTHWEST LABORATORIES | U2C | 2020 | 0.096 |
| West Coast Metabolomics Center for Compound Identification | UNIVERSITY OF CALIFORNIA AT DAVIS | U2C | 2020 | 0.094 |
| Classification Algorithms for Chemical Compounds | UNIVERSITY OF MINNESOTA | R01 | 2008 | 0.077 |
| Machine Learning Tools for Discovery and Analysis of Active Metabolic Pathways | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.073 |
| Biomarker discovery for mitochondrial toxicants using metabolic footprinting | FRED HUTCHINSON CANCER RESEARCH CENTER | R01 | 2015 | 0.069 |

**Cluster 51:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Infant statistical learning: Resilience, longevity, and specificity | UNIVERSITY OF TENNESSEE KNOXVILLE | R01 | 2019 | 0.21 |
| Statistical learning of multiple patterns in infants, adults, and monkeys | PENNSYLVANIA STATE UNIVERSITY-UNIV PARK | R01 | 2015 | 0.19 |
| Linking Statistical Learning to Vocabulary Development | UNIVERSITY OF CALIFORNIA AT DAVIS | R03 | 2011 | 0.18 |
| Statistical Learning in Language Acquisition | UNIVERSITY OF WISCONSIN-MADISON | R37 | 2019 | 0.18 |
| When cues converge: multiple regularities in language acquisition | UNIVERSITY OF WISCONSIN-MADISON | F31 | 2008 | 0.17 |

**Cluster 52:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computational Modeling of Anatomical Shape Distributions | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2009 | 0.23 |
| Optical Body Composition and Health Assessment | UNIVERSITY OF HAWAII AT MANOA | R01 | 2020 | 0.19 |
| Neural Basis of Shape from Texture | STATE COLLEGE OF OPTOMETRY | R01 | 2015 | 0.19 |
| ShapeWorksStudio: An Integrative, User-Friendly, and Scalable Suite for Shape Representation and Analysis | UNIVERSITY OF UTAH | U24 | 2020 | 0.19 |
| Shape up! Kids | UNIVERSITY OF HAWAII AT MANOA | R01 | 2020 | 0.18 |

**Cluster 53:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Nasal biomarkers of asthma | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2019 | 0.43 |
| Asthma ascertainment and characterization through electronic health records | MAYO CLINIC ROCHESTER | R01 | 2017 | 0.42 |
| Multi-Omics Analysis of the Association of Polyunsaturated Fatty Acids with Asthma and Allergy in Childhood | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.38 |
| Multifactorial spatiotemporal analyses to evaluate environmental triggers and patient-level clinical characteristics of severe asthma exacerbations in children | DUKE UNIVERSITY | R21 | 2020 | 0.37 |
| OBJECTIVE HOME MANAGEMENT OF PEDIATRIC ASTHMA EXACERBATION USING MOBILE TECHNOLOGY AND MACHINE LEARNING | AUSCULTECH DX, LLC | R41 | 2020 | 0.36 |

**Cluster 54:**

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| --- | --- | --- | --- | --- |
| 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 | 0.12 |
| Restoring arm and hand motor function with non-invasive spinal stimulation. | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2013 | 0.12 |
| A Theranostic Tool to Assess and Enable Spared Spinal Motor Function After SCI | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2014 | 0.12 |
| Spinal Epidural Electrode Array to Facilitate Standing and Stepping After SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2012 | 0.11 |
| Enabling forelimb function with agonist drug and epidural stimulation in SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2017 | 0.1 |

**Cluster 55:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Enabling Shared Analysis and Processing of Large Neurophysiology Data | KITWARE, INC. | R44 | 2018 | 0.071 |
| Motion Robust Mapping of Human Brain Functional Connectivity Changes in Utero | UNIVERSITY OF WASHINGTON | R01 | 2016 | 0.066 |
| BRAIN INITIATIVE RESOURCE: DEVELOPMENT OF A HUMAN NEUROELECTROMAGNETIC DATA ARCHIVE AND TOOLS RESOURCE (NEMAR) | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R24 | 2020 | 0.065 |
| A BRAIN Initiative Resource: The Neuroscience Multi-omic Data Archive | UNIVERSITY OF MARYLAND BALTIMORE | R24 | 2020 | 0.062 |
| SPATIAL-SYMBOLIC BRAIN INFORMATION MANAGEMENT SYSTEM | UNIVERSITY OF WASHINGTON | R01 | 2001 | 0.061 |

**Cluster 56:**

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| --- | --- | --- | --- | --- |
| 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 | 0.26 |
| Genetic & epigenetic analysis of angiogenesis genes in recurrent prostate cancer | H. LEE MOFFITT CANCER CTR & RES INST | R01 | 2012 | 0.25 |
| MRI Imaging and Biomarkers for Early Detection of Aggressive Prostate Cancer | UNIVERSITY OF MIAMI SCHOOL OF MEDICINE | U01 | 2020 | 0.25 |
| Development of a Multimodal Deep Learning Model for the Generation of Cancer Probability Maps and Imaging Biomarkers for Prostate Cancer using Multiparametric MRI | UNIVERSITY OF CALIFORNIA LOS ANGELES | F30 | 2018 | 0.25 |
| CLINICAL AND EPIDEMIOLOGICAL CENTER--PROSTATE CANCER | JOHNS HOPKINS UNIVERSITY | U01 | 2004 | 0.25 |

**Cluster 57:**

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| --- | --- | --- | --- | --- |
| 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 | 0.14 |
| Genomic Reconstruction of Yeast Transcription Networks | UNIVERSITY OF CALIFORNIA SAN FRANCISCO | R01 | 2006 | 0.13 |
| Surveying transcription factor pioneer interactions with nucleosomal DNA | BRIGHAM AND WOMEN'S HOSPITAL | R21 | 2018 | 0.13 |
| Administrative Supplement: Surveying transcription factor pioneer interactions with nucleosomal DNA | BRIGHAM AND WOMEN'S HOSPITAL | R21 | 2017 | 0.13 |

**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 | 0.47 |
| 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 | 0.45 |
| Institutional Collaboration Between Liverpool STM & CDC on Malaria | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2009 | 0.42 |
| Malaria Operations Research to Improve Malaria Control and Reduce Morbidity and Mortality in Western Kenya | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2020 | 0.39 |
| Towards noninvasive diagnosis of malaria | CHILDREN'S HOSP OF PHILADELPHIA | R21 | 2020 | 0.38 |

**Cluster 59:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting brain tumor progression via multiparametric image analysis and modelin | UNIVERSITY OF PENNSYLVANIA | R01 | 2018 | 0.16 |
| MDCT Quantification of hepatic tumor viability for assessment of cancer therapy | IQ MEDICAL IMAGING, LLC | R42 | 2019 | 0.15 |
| 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 | 0.13 |
| Engineering personalized micro-tumor ecosystems | BRIGHAM AND WOMEN'S HOSPITAL | U01 | 2020 | 0.12 |