**Cluster 0:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| The Center for Predictive Computational Phenotyping-1 Overall | UNIVERSITY OF WISCONSIN-MADISON | U54 | 2018 | 0.11 |
| NIDA Center of Excellence OF Computational Drug Abuse Research (CDAR) | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | P30 | 2018 | 0.081 |
| The Center for Innovation in Intensive Longitudinal Studies (CIILS) | PENNSYLVANIA STATE UNIVERSITY-UNIV PARK | U24 | 2020 | 0.071 |
| COMPUTATIONAL THINKING-Computational Abduction for Molecular Biology | UNIVERSITY OF COLORADO DENVER | N03 | 2010 | 0.057 |
| West Coast Metabolomics Center for Compound Identification | UNIVERSITY OF CALIFORNIA AT DAVIS | U2C | 2020 | 0.057 |

**Cluster 1:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Protein recognition for modular domains | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2012 | 0.17 |
| Very large datasets and new models to predict and design protein interactions | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2014 | 0.17 |
| Integrated Prediction of Protein Struture at 1D, 2D and 3D Levels | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2013 | 0.16 |
| Method Development: Efficient Computer Vision Based Algorithms | DIVISION OF BASIC SCIENCES - NCI | ZIA | 2020 | 0.15 |
| Optimization of Stuctures and Networks of Proteins | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2010 | 0.15 |

**Cluster 2:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| ABCD-USA Consortium: Research Project | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2019 | 0.12 |
| ABCD-USA Consortium:Research Project | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | U01 | 2019 | 0.11 |
| ABCD-USA Consortium: Data Analysis Center | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U24 | 2019 | 0.08 |
| Predicting Substance Use and Related Antisocial Behavior with Psychiatric, Socioeconomic, and Brain Measures in Women Offenders | UNIVERSITY OF NEW MEXICO | F31 | 2020 | 0.072 |
| ABCD-USA Consortium: Data Analysis, Informatics and Resource Center | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U24 | 2020 | 0.055 |

**Cluster 3:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Identify, Analyze, and Evaluate Potential Risk Factors for Amyotrophic Lateral Sclerosis (ALS) - 2018 | DARTMOUTH-HITCHCOCK CLINIC | R01 | 2020 | 0.088 |
| Machine Learning to Identify Complex Interactions in Genome-Wide Association Data | WAKE FOREST UNIVERSITY HEALTH SCIENCES | R01 | 2009 | 0.08 |
| Family History, Genes, Environment and G X E Interaction in Predicting RA Risk | BRIGHAM AND WOMEN'S HOSPITAL | K24 | 2014 | 0.073 |
| Genotype First: Actionable Genetic Risk through Genotype-to-Phenotype Prediction | SCRIPPS RESEARCH INSTITUTE | R01 | 2020 | 0.071 |
| Biomarkers and Genes Associated with Placental Development and Function in Response to Environmental Pollution | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2020 | 0.07 |

**Cluster 4:**

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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 | 0.38 |
| Wearable silent speech technology to enhance impaired oral communication | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.34 |
| Objectively Quantifying Speech Outcomes of Children with Cleft Palate | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R21 | 2019 | 0.34 |
| Speech segregation to improve intelligility of reverberant-noisy speech | OHIO STATE UNIVERSITY | R01 | 2020 | 0.34 |
| Using Speech Acoustics to Reveal Motor Disruptions in Psychosis | NORTHWESTERN UNIVERSITY | R21 | 2020 | 0.33 |

**Cluster 5:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Measuring Infant Pain Objectively using Sensor Fusion and Machine Learning Algorithms | AUTONOMOUS HEALTHCARE, INC. | R41 | 2018 | 0.41 |
| Evaluation of Pain in Chronic Pancreatitis using the NAPS2 cohorts | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R21 | 2015 | 0.41 |
| A Multimodal Approach for Monitoring Prolonged Acute Pain in Neonates | UNIVERSITY OF SOUTH FLORIDA | R21 | 2020 | 0.4 |
| Central glutamate signaling in postoperative pain regulation - Renewal | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | R01 | 2020 | 0.4 |
| Autonomous Pain Recognition in Non-Verbal and Critically Ill Patients | UNIVERSITY OF FLORIDA | R21 | 2020 | 0.4 |

**Cluster 6:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Big Data analytics of HIV treatment gaps in South Carolina: Identification and prediction | UNIVERSITY OF SOUTH CAROLINA AT COLUMBIA | R01 | 2020 | 0.35 |
| Health Informatics to Model the Scott County HIV Outbreak | UNIVERSITY OF GEORGIA | R21 | 2020 | 0.33 |
| Addressing Major HIV Prevention and Health Outcomes Questions in an Era of Universal ART: Mentoring in a Community-Randomized Trial | BRIGHAM AND WOMEN'S HOSPITAL | K24 | 2020 | 0.33 |
| Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa | STANFORD UNIVERSITY | R01 | 2020 | 0.33 |
| NeuroAIDS in India | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2011 | 0.33 |

**Cluster 7:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Studying how the hippocampal-prefrontal-hypothalamic circuit encodes social dominance | SALK INSTITUTE FOR BIOLOGICAL STUDIES | K99 | 2020 | 0.085 |
| The Molecular Underpinnings of Complex Social Behavior | ROCKEFELLER UNIVERSITY | R35 | 2020 | 0.072 |
| Regulation of social aggression through hippocampal CA2 inputs to lateral septum | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.068 |
| Neural Circuit Mechanisms of Social Homeostasis in Individuals and Supraorganismal Social Groups | SALK INSTITUTE FOR BIOLOGICAL STUDIES | DP1 | 2020 | 0.068 |
| Multimodal, integrated analysis of neural activity and naturalistic social behavior in freely moving mice | CALIFORNIA INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.062 |

**Cluster 8:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Mozak: Creating an Expert Community to accelerate neuronal reconstruction at scale | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.092 |
| "Methods from Computational Topology and Geometry for Analysing Neuronal Tree and Graph Data" | COLD SPRING HARBOR LABORATORY | R01 | 2018 | 0.067 |
| Generation and Description of Dendritic Morphology | GEORGE MASON UNIVERSITY | R01 | 2007 | 0.056 |
| NONLINEAR DYNAMICS OF NEURONAL ENSEMBLES | GEORGE MASON UNIVERSITY | K02 | 2001 | 0.054 |
| COINSTAC: Decentralized, Scalable Analysis of Loosely Coupled Data | GEORGIA STATE UNIVERSITY | R01 | 2019 | 0.051 |

**Cluster 9:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Machine Learning and Personalized Prognosis for Depression Treatment | UNIVERSITY OF TEXAS, AUSTIN | R21 | 2017 | 0.094 |
| Evaluation of molecular mechanisms of treatment response in late-life depression | CENTRE FOR ADDICTION AND MENTAL HEALTH | R01 | 2020 | 0.087 |
| Using Causal Inference and Machine Learning Methods to Predict Cognitive Behavioral Treatment Response | BOSTON UNIVERSITY (CHARLES RIVER CAMPUS) | R21 | 2020 | 0.086 |
| Building Multistage Treatment Regimens for Depression after Acute Coronary SyndromeSyndrome | COLUMBIA UNIVERSITY HEALTH SCIENCES | R21 | 2017 | 0.077 |
| Statistical and Machine Learning Methods for Integrating Clinical and Multimodal Imaging Data to Select Optimal Antidepressant Treatment | GEORGE WASHINGTON UNIVERSITY | K01 | 2020 | 0.074 |

**Cluster 10:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Visualization and Analysis of the TCGA Data Using the UCSC Cancer Genomics Browse | UNIVERSITY OF CALIFORNIA SANTA CRUZ | R21 | 2009 | 0.1 |
| A Federated Galaxy for user-friendly large-scale cancer genomics research | OREGON HEALTH & SCIENCE UNIVERSITY | U24 | 2020 | 0.091 |
| UCSC-Buck Inst. Genome Data Analysis Center for TCGA Research Network (GDAC) | UNIVERSITY OF CALIFORNIA SANTA CRUZ | U24 | 2016 | 0.088 |
| Stephenson Cancer Center - Cancer Center Support Grant | UNIVERSITY OF OKLAHOMA HLTH SCIENCES CTR | P30 | 2020 | 0.087 |
| MICRORNA BIOMARKERS FOR OROPHARYNGEAL CANCER | UNIVERSITY OF ILLINOIS AT CHICAGO | R01 | 2020 | 0.086 |

**Cluster 11:**

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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 | 0.27 |
| Using Markov Decision Processes to Optimize Breast Biopsy Decision Making | UNIVERSITY OF WISCONSIN-MADISON | R21 | 2009 | 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 | 0.26 |
| Breast Cancer Risk Stratification with Resonant Electrical Impedance Spectroscopy | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R33 | 2010 | 0.26 |

**Cluster 12:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Neuron and Glial Cellular Signatures from Normal and Diseased iPS Cells | UNIVERSITY OF CALIFORNIA-IRVINE | U54 | 2020 | 0.098 |
| Neuron and Glial Cellular Signatures from Normal and Diseased iPS Cells-Supplement | UNIVERSITY OF CALIFORNIA-IRVINE | U54 | 2018 | 0.098 |
| Center for Sub-Cellular Genomics | UNIVERSITY OF PENNSYLVANIA | RM1 | 2020 | 0.093 |
| National Center: Multi-Scale Study of Cellular Networks(RMI) | COLUMBIA UNIVERSITY HEALTH SCIENCES | U54 | 2010 | 0.086 |
| National Center: Multiscale Analysis of Genomic and Cellular Networks (MAGNet) | COLUMBIA UNIVERSITY HEALTH SCIENCES | U54 | 2010 | 0.084 |

**Cluster 13:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Cardiovascular implications of sleep characteristics using real-world objective sleep data | UNIVERSITY OF WASHINGTON | R21 | 2020 | 0.11 |
| Enhanced Measurement and Modeling of Sleep Electrophysiology to Better Understand Sleep Disparities | BRIGHAM AND WOMEN'S HOSPITAL | R21 | 2020 | 0.11 |
| Sleep Health Profiles in Middle-aged Workers in Relation to Cardiovascular and Cognitive Health | UNIVERSITY OF SOUTH FLORIDA | R56 | 2020 | 0.11 |
| Leveraging National Sleep Research Resource Data for Personalized Sleep Profiling | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2020 | 0.11 |
| The Health and Behavioral Effects of Sleep Deprivation Among the Urban Poor in India | UNIVERSITY OF PENNSYLVANIA | K01 | 2020 | 0.1 |

**Cluster 14:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Development of a tracheal sound sensor for early detection of hypoventilation due to opioid overdose. | RTM VITAL SIGNS, LLC | R41 | 2019 | 0.13 |
| iTransform: Wearable Biosensors to Detect the Evolution of Opioid Tolerance in Opioid Naïve Individuals | UNIV OF MASSACHUSETTS MED SCH WORCESTER | K23 | 2020 | 0.12 |
| Telemedicine for Treatment of Opioid Use Disorder | HARVARD MEDICAL SCHOOL | R01 | 2020 | 0.11 |
| 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 | 0.1 |
| Project FIGARO - Factors Important to Gather for Anticipating Relapses for Opioids | BEHAIVIOR, LLC | R43 | 2018 | 0.1 |

**Cluster 15:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Pittsburgh Biomedical Informatics Training Program | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | T15 | 2011 | 0.21 |
| Medical Informatics Research Training Program at Columb\* | COLUMBIA UNIVERSITY HEALTH SCIENCES | T15 | 2007 | 0.19 |
| Training in Biomedical Informatics at Columbia University | COLUMBIA UNIVERSITY HEALTH SCIENCES | T15 | 2009 | 0.18 |
| Graduate Training in Biomedical Informatics | STANFORD UNIVERSITY | T15 | 2008 | 0.17 |
| Boston-Area Research Training Program in Biomedical Informatics | HARVARD UNIVERSITY (MEDICAL SCHOOL) | T15 | 2007 | 0.16 |

**Cluster 16:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting Self-Harm, Suicide Attempt, and Suicidal Death using Longitudinal EHR, Claims and Mortality Data | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.41 |
| Digital Monitoring of Agitation for Short-Term Suicide Risk Prediction | MASSACHUSETTS GENERAL HOSPITAL | K23 | 2020 | 0.39 |
| Computerized Adaptive Suicidal Risk Stratification and Prediction | ADAPTIVE TESTING TECHNOLOGIES | R44 | 2020 | 0.39 |
| Improving Suicide Prediction using NLP-Extracted Social Determinants of Health | UNIVERSITY OF MASSACHUSETTS LOWELL | R01 | 2020 | 0.39 |
| Innovations in Suicide Prevention Research (INSPIRE) | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.39 |

**Cluster 17:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Administrative Supplement Request for Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2016 | 0.2 |
| Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2020 | 0.19 |
| Big Data Coursework for Computational Medicine | WEILL MEDICAL COLL OF CORNELL UNIV | R25 | 2016 | 0.18 |
| Summer Institute for Statistics of Big Data | UNIVERSITY OF WASHINGTON | R25 | 2016 | 0.18 |
| Fisk University/UIUC-Mayo KnowENG BD2K Center R25 Partnership | FISK UNIVERSITY | R25 | 2019 | 0.17 |

**Cluster 18:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Analysis of LC-MS data to identify peptide and glycan biomarkers for hepatocellul | GEORGETOWN UNIVERSITY | R01 | 2014 | 0.13 |
| Improving Diagnosis of Multiple Sclerosis Through the Integration of Novel Imaging and Laboratory Biomarkers | UNIVERSITY OF VERMONT & ST AGRIC COLLEGE | K02 | 2020 | 0.12 |
| Urinary Polypeptide Biomarkers of IgA Nephropathy | UNIVERSITY OF ALABAMA AT BIRMINGHAM | R21 | 2010 | 0.11 |
| Prediction of risk of disability worsening and inflammatory disease activity in MS utilizing multimodal prediction algorithms | JOHNS HOPKINS UNIVERSITY | K23 | 2020 | 0.11 |
| Novel Strategies to Identify GxE Contributions to MS Pathogenesis | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2015 | 0.11 |

**Cluster 19:**

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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 | 0.48 |
| Asthma ascertainment and characterization through electronic health records | MAYO CLINIC ROCHESTER | R01 | 2017 | 0.46 |
| Multi-Omics Analysis of the Association of Polyunsaturated Fatty Acids with Asthma and Allergy in Childhood | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.42 |
| SCH: kHealth: Semantic Multisensory Mobile Approach to Personalized Asthma Care | WRIGHT STATE UNIVERSITY | R01 | 2018 | 0.42 |
| OBJECTIVE HOME MANAGEMENT OF PEDIATRIC ASTHMA EXACERBATION USING MOBILE TECHNOLOGY AND MACHINE LEARNING | AUSCULTECH DX, LLC | R41 | 2020 | 0.42 |

**Cluster 20:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Leveraging Maps and Computer Vision to Support Indoor Navigation for Blind Travelers | SMITH-KETTLEWELL EYE RESEARCH INSTITUTE | R01 | 2020 | 0.16 |
| NRI: An Egocentric Computer Vision based Active Learning Co-Robot Wheelchair | STEVENS INSTITUTE OF TECHNOLOGY | R01 | 2017 | 0.15 |
| Psychophysics of Reading - Normal and Low Vision | UNIVERSITY OF MINNESOTA | R01 | 2018 | 0.15 |
| Vision Without Sight: Exploring the Environment with a Portable Camera | UNIVERSITY OF CALIFORNIA SANTA CRUZ | R21 | 2012 | 0.15 |
| SIGN FINDER: COMPUTER VISION TO FIND AND READ SIGNS | BLINDSIGHT CORPORATION | R43 | 2000 | 0.14 |

**Cluster 21:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| The Molecular Pathogenesis of Health Disparities in Inf\* | NORTHSHORE UNIVERSITY HEALTHSYSTEM | R01 | 2005 | 0.039 |
| PATHOGENESIS OF HEALTH DISPARITIES IN PRETERM BIRTH | EVANSTON NORTHWESTERN HEALTHCARE RES INS | R01 | 2001 | 0.038 |
| Genetic Predisposition To Thoracic Aortic Aneurysms/Dissections | UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON | R01 | 2020 | 0.036 |
| Neurovirulent HSV-1 Recombinants for vQTL Analysis | UNIVERSITY OF WISCONSIN-MADISON | R21 | 2020 | 0.034 |
| Modeling MicroRNA-Target Functional Networks for Acute Myeloid Leukemia Prognosis | UNIVERSITY OF CHICAGO | R21 | 2014 | 0.033 |

**Cluster 22:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| : Complex systems analysis of the impact of alcohol on bone in non-human primates | OREGON STATE UNIVERSITY | R01 | 2020 | 0.29 |
| A Multisite Neurobehavioral Assessment of Fetal Alcohol Spectrum Disorders | SAN DIEGO STATE UNIVERSITY | U01 | 2020 | 0.29 |
| Mediators and Moderators of a Neighborhood Experiment on Alcohol Use | UNIVERSITY OF MINNESOTA | R21 | 2017 | 0.28 |
| Ambulatory assessment of alcohol use, mood dysregulation, and alcohol craving | UNIVERSITY OF MISSOURI-COLUMBIA | R21 | 2014 | 0.28 |
| Alcohol Use: Nonlinearities in Intraindividual Variables | UNIVERSITY OF SOUTHERN CALIFORNIA | F31 | 2005 | 0.28 |

**Cluster 23:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Consumer Assessment of Healthcare Providers and Systems V (CAHPS V) | RAND CORPORATION | U18 | 2020 | 0.059 |
| Automatic Acquisition of Knowledge for Senior Care Planning | MY HEALTH CARE | R44 | 2011 | 0.05 |
| CPS: AutoWean: Foundations of Autonomous Medical CPS for Mechanical Ventilation Weaning | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.05 |
| Aligning Patient Acuity with Intensity of Care after Surgery | UNIVERSITY OF FLORIDA | K23 | 2020 | 0.048 |
| Adaptation and pilot implementation of a validated, electronic real time clinical decision support tool for care of Pneumonia patients in 12 Utah Urgent Care Centers | IHC HEALTH SERVICES, INC. | R18 | 2020 | 0.048 |

**Cluster 24:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Community Effort to Translate Protein Data to Knowledge: An Integrated Platform | UNIVERSITY OF CALIFORNIA LOS ANGELES | U54 | 2017 | 0.27 |
| THE STANFORD PHARMACOGENETICS KNOWLEDGE BASE | STANFORD UNIVERSITY | U01 | 2004 | 0.2 |
| Mobility Data Integration to Insight | STANFORD UNIVERSITY | U54 | 2018 | 0.14 |
| BioMediator: Biologic Data Integration& Analysis System | UNIVERSITY OF WASHINGTON | R01 | 2005 | 0.081 |
| BioMediator: Biologic Data Integration & Analysis System | UNIVERSITY OF WASHINGTON | R01 | 2003 | 0.081 |

**Cluster 25:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Development And Applications Of The Open Microscopy Environment (OME) | NATIONAL INSTITUTE ON AGING | ZIA | 2016 | 0.11 |
| Multimodal image registration by proxy image synthesis | JOHNS HOPKINS UNIVERSITY | R01 | 2015 | 0.096 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics System for Muscle | UNIVERSITY OF FLORIDA | R01 | 2016 | 0.091 |
| Development and Dissemination of MuscleMiner: An Imaging Informatics Tool for Mus | UNIVERSITY OF FLORIDA | R01 | 2018 | 0.091 |
| Advancing algorithms for image-based profiling | BROAD INSTITUTE, INC. | R35 | 2020 | 0.078 |

**Cluster 26:**

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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 |
| Regulatory landscape of the human genome: comparative and evolutionary analysis. | NATIONAL LIBRARY OF MEDICINE | ZIA | 2020 | 0.16 |
| Comprehensive functional characterization and dissection of noncoding regulatory elements and human genetic variation | BROAD INSTITUTE, INC. | UM1 | 2020 | 0.14 |
| CHARTING THE EPIGENOMIC LANDSCAPE OF HUMAN TRANSPOSABLE ELEMENTS | WASHINGTON UNIVERSITY | R01 | 2015 | 0.13 |
| Decoding the regulatory architecture of the human genome across cell types, individuals and disease | STANFORD UNIVERSITY | U01 | 2020 | 0.13 |

**Cluster 27:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Smartband/smartphone-based automatic smoking detection and real time mindfulness intervention | YALE UNIVERSITY | R34 | 2020 | 0.43 |
| Eliminating Tobacco-Related Disparities amount African American Smokers | UNIVERSITY OF UTAH | R01 | 2020 | 0.38 |
| Eliminating Tobacco-Related Disparities among African American Smokers | RICE UNIVERSITY | R01 | 2016 | 0.38 |
| An Olfactory Method for Controlling Cigarette Craving | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2017 | 0.38 |
| An Olfactory Method for Controlling Cigarette Craving - Supplement | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2015 | 0.38 |

**Cluster 28:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| UniProt: A centralized protein sequence and function resource | EUROPEAN MOLECULAR BIOLOGY LABORATORY | U24 | 2020 | 0.066 |
| Reactome IDG portal: Pathway-based analysis and visualization of understudied human proteins | OREGON HEALTH & SCIENCE UNIVERSITY | U01 | 2020 | 0.06 |
| Computational tools for T- and B-cell epitope prediction | UNIVERSITY OF TEXAS MED BR GALVESTON | R01 | 2010 | 0.06 |
| Computerized Radiographic Analysis of Bone Structure | UNIVERSITY OF CHICAGO | R01 | 2005 | 0.058 |
| Bar Domains and Neuronal Membrane Structure | STANFORD UNIVERSITY | R01 | 2014 | 0.057 |

**Cluster 29:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| 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 | 0.22 |
| Automated Facial Expression Analysis for Research and Clinical Use | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2016 | 0.22 |
| A Study of the Computational Space of Facial Expressions of Emotion | OHIO STATE UNIVERSITY | R01 | 2014 | 0.22 |
| FACIAL EXPRESSION ANALYSIS BY IMAGE PROCESSING | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2005 | 0.2 |
| The Development and Neural Bases of Emotion Processing | BOSTON CHILDREN'S HOSPITAL | R01 | 2016 | 0.19 |

**Cluster 30:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Naeglearia fowleri proline tRNA synthetase inhibitors | NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCES | ZIA | 2020 | 0.14 |
| Development of a Biocatalytic Platform for Convergent Synthesis of Chiral Amines | CALIFORNIA INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.11 |
| Identification of small molecule modulators of DNA Methylation inhibition | NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCES | ZIA | 2019 | 0.11 |
| Identification of small molecule inhibitors of DNA Methylation | NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCES | ZIA | 2020 | 0.11 |
| Classification Algorithms for Chemical Compounds | UNIVERSITY OF MINNESOTA | R01 | 2008 | 0.11 |

**Cluster 31:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Prostate Cancer Imaging | DIVISION OF BASIC SCIENCES - NCI | ZIA | 2020 | 0.27 |
| Genetic & epigenetic analysis of angiogenesis genes in recurrent prostate cancer | H. LEE MOFFITT CANCER CTR & RES INST | R01 | 2012 | 0.26 |
| Gene-Gene Interactions and Their Functional Roles in Prostate Cancer Aggressiveness | LSU HEALTH SCIENCES CENTER | R21 | 2017 | 0.26 |
| CLINICAL AND EPIDEMIOLOGICAL CENTER--PROSTATE CANCER | JOHNS HOPKINS UNIVERSITY | U01 | 2004 | 0.26 |
| MRI Imaging and Biomarkers for Early Detection of Aggressive Prostate Cancer | UNIVERSITY OF MIAMI SCHOOL OF MEDICINE | U01 | 2020 | 0.25 |

**Cluster 32:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Functional Cardiovascular 4D MRI in Congenital Heart Disease | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2020 | 0.13 |
| Osteoarthritis: Quantitative Evaluation of Whole Joint Disease with MRI | STANFORD UNIVERSITY | R01 | 2020 | 0.11 |
| Noninvasive imaging-based electrophysiology using microelectronic devices | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2015 | 0.1 |
| Rapid motion-robust quantitative DCE-MRI for the assessment of gynecologic cancers | SLOAN-KETTERING INST CAN RESEARCH | R01 | 2020 | 0.1 |
| Machine learning for fast motion compensated quantitative abdominal DCE-MRI | BOSTON CHILDREN'S HOSPITAL | R21 | 2020 | 0.1 |

**Cluster 33:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Intraocular Robotic Interventional Surgical System for Cataract Surgery Project | UNIVERSITY OF CALIFORNIA LOS ANGELES | R21 | 2015 | 0.16 |
| Impact of Crouch Gait and Surgical Treatment on Knee Mechanics and Function | UNIVERSITY OF WISCONSIN-MADISON | R21 | 2016 | 0.14 |
| Learning-Based Approach for Personalized Craniomaxillofacial Surgical Planning | METHODIST HOSPITAL RESEARCH INSTITUTE | R01 | 2020 | 0.14 |
| Quantifying the Metrics of Surgical Mastery: An Exploration in Data Science | STANFORD UNIVERSITY | R01 | 2020 | 0.13 |
| Real-time non-intrusive workload monitoring-Integration of human factors in surgery training and assessment | PURDUE UNIVERSITY | R21 | 2020 | 0.13 |

**Cluster 34:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Quantitative Low-Dose PET Imaging | YALE UNIVERSITY | R01 | 2020 | 0.2 |
| Simultaneous imaging of myocardial blood flow and glucose metabolism using dynamic 18F-FDG PET | UNIVERSITY OF CALIFORNIA AT DAVIS | R21 | 2017 | 0.17 |
| Optimization of PET Image Reconstruction for Lesion Detection | MASSACHUSETTS GENERAL HOSPITAL | R03 | 2020 | 0.16 |
| Integrated analysis of coronary anatomy and biology with 18F-fluoride PET and CT angiography | CEDARS-SINAI MEDICAL CENTER | R01 | 2020 | 0.14 |
| Deep learning techniques for time-of-flight PET detectors | UNIVERSITY OF CALIFORNIA AT DAVIS | R03 | 2019 | 0.13 |

**Cluster 35:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Air Particulate, Metals, and Cognitive Performance in an Aging Cohort- Roles of Circulating Extracellular Vesicles and Non-coding RNAs | HARVARD SCHOOL OF PUBLIC HEALTH | R01 | 2020 | 0.088 |
| Computational modeling of semantic decline in Alzheimer's disease | UNIVERSITY OF WISCONSIN-MADISON | R21 | 2017 | 0.077 |
| Automated Social Interactive Interface to Monitor and Update Intervention Plans for People with MCI, Alzheimer's and Other Dementias | ADVANCED MEDICAL ELECTRONICS CORPORATION | R44 | 2020 | 0.069 |
| Aging eyes and aging brains in studying alzheimer's disease: Modern ophthalmic data collection in the adult changes in thought (ACT) study | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.068 |
| Automated Web-Based Behavioral Diagnostics of Cognitive Impairment | EMORY UNIVERSITY | R01 | 2014 | 0.067 |

**Cluster 36:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Web-based App to Alleviate Loneliness and Isolation in Older Adults at Home | VIGOROUS MIND, INC. | R43 | 2018 | 0.23 |
| Cognitive and social aspects of decision-making | UNIVERSITY OF COLORADO AT COLORADO SPGS | R15 | 2002 | 0.21 |
| Frailty, Statins, and Cardiovascular Disease Burden in Older Adults | HARVARD MEDICAL SCHOOL | R03 | 2019 | 0.2 |
| Changes in Multimorbidity and Disability Among Race/Ethnic Older Adults (AD/ADRD-Focused Administrative Supplement) | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2018 | 0.19 |
| Multimorbidity and Treatment-Related Outcomes in Older Heart Failure Patients | UNIV OF MASSACHUSETTS MED SCH WORCESTER | R01 | 2020 | 0.19 |

**Cluster 37:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biomarker panel to differentiate stroke from stroke mimic | PREDICTION SCIENCES, LLC | R43 | 2008 | 0.33 |
| Sleep apnea after stroke: Implications for screening and treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.32 |
| Fast and Easy Assessment of Stroke | ALVA HEALTH, INC. | R43 | 2019 | 0.31 |
| Whole Transcriptome Studies of Patients with Transient Ischemic Attacks (TIAs) | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.29 |
| Enhancing Stroke Prehospital and Emergency Evaluation and Delivery (E-SPEED) | UNIVERSITY OF CHICAGO | R18 | 2020 | 0.28 |

**Cluster 38:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Real-Time Mobile Cognitive Behavioral Intervention for Serious Mental Illness | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.14 |
| Assisted Identification and Navigation of Early Mental Health Symptoms in Youth | KAISER FOUNDATION RESEARCH INSTITUTE | R56 | 2018 | 0.14 |
| CBTpro: Scaling up CBT for psychosis using simulated patients and spoken language technologies | LYSSN.IO, INC. | R42 | 2020 | 0.12 |
| The Development and Systematic Evaluation of an AI-Assisted Just-in-Time-Adaptive-Intervention for Improving Child Mental Health | COLLIGA APPS CORP. | R42 | 2020 | 0.11 |
| Monitoring and Stabilizing Behavioral Rhythms to Improve Mental Health | HEALTH RHYTHMS, INC. | R44 | 2018 | 0.11 |

**Cluster 39:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| The role of statistical learning in the atypical language development in ASD | UNIVERSITY OF DELAWARE | R21 | 2019 | 0.19 |
| Gait and communication growth in typical development and autism spectrum disorder | UNIVERSITY OF PENNSYLVANIA | F31 | 2020 | 0.18 |
| Prediction and Early Language Development in Young Children with ASD | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2019 | 0.18 |
| Investigating quantitative signatures of autism in toddlers | COLUMBIA UNIVERSITY TEACHERS COLLEGE | R01 | 2020 | 0.17 |
| Cerebellar connectivity and error-based learning in infants at risk for autism | WASHINGTON UNIVERSITY | F31 | 2020 | 0.17 |

**Cluster 40:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Predicting brain tumor progression via multiparametric image analysis and modelin | UNIVERSITY OF PENNSYLVANIA | R01 | 2018 | 0.19 |
| MDCT Quantification of hepatic tumor viability for assessment of cancer therapy | IQ MEDICAL IMAGING, LLC | R42 | 2019 | 0.14 |
| Automatic Volumetric Treatment Response Assessment and Determination of Regional Genetic Characteristics in Glioblastoma | HARVARD MEDICAL SCHOOL | F30 | 2020 | 0.13 |
| Quantitative Multimodal Image Guidance for Improved Liver Cancer Treatment | YALE UNIVERSITY | R01 | 2020 | 0.13 |
| Exploring the Role of Mitochondrial Fission in Pancreatic Tumorigenesis | UNIVERSITY OF VIRGINIA | R01 | 2017 | 0.13 |

**Cluster 41:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Longitudinal brain development and clinical outcomes in ADHD from 7-17 years | OREGON HEALTH & SCIENCE UNIVERSITY | R56 | 2016 | 0.089 |
| Perception and Modulation of Visceral Sensation | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2019 | 0.086 |
| Fetal Programming of Human Newborn Energy Homeostasis Brain Networks and Infant Adiposity | UNIVERSITY OF CALIFORNIA-IRVINE | K99 | 2020 | 0.08 |
| Development and Dissemination of Robust Brain MRI Measurement Tools | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2015 | 0.079 |
| Assessing the Effects of Deep Brain Stimulation on Agency | DARTMOUTH COLLEGE | RF1 | 2018 | 0.077 |

**Cluster 42:**

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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 | 0.26 |
| An Intelligent Physical Activity Monitor | CREARE, INC. | R43 | 2006 | 0.25 |
| A cutting edge approach to assessing physical activities occurring on sidewalks/streets | UNIVERSITY OF DELAWARE | R21 | 2019 | 0.22 |
| Novel Approaches for Predicting Unstructured Short Periods of Physical Activities in Youth | UNIVERSITY OF TENNESSEE KNOXVILLE | R01 | 2019 | 0.21 |
| Using Retrospective and Real-Time Physical Activity Tracking to Predict Risk of Sunburn in Outdoor Exercisers on Strava | KLEIN BUENDEL, INC. | R21 | 2020 | 0.21 |

**Cluster 43:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Exploring Natural Language Processing, Image Processing, Machine Learning, and Us | UNIV OF MASSACHUSETTS MED SCH WORCESTER | R01 | 2015 | 0.11 |
| Protege: A Knowledge-Engineering Environment for Advancing Biomedical Sciences | STANFORD UNIVERSITY | R01 | 2020 | 0.085 |
| Construction of a Full Text Corpus for Biomedical Text Mining | UNIVERSITY OF COLORADO DENVER | G08 | 2009 | 0.083 |
| Adaptive Information Monitoring and Extraction | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2009 | 0.075 |
| Improving the Efficiency and Efficacy in Authoring Essential Clinical FAQs | NORTHWESTERN UNIVERSITY AT CHICAGO | R00 | 2015 | 0.075 |

**Cluster 44:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Sepsis Early Prediction and Subphenotype Illumination Study (SEPSIS) | UNIVERSITY OF CHICAGO | R01 | 2019 | 0.053 |
| Sepsis Early Prediction and Subphenotype Illumination Study (SEPSIS) | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2020 | 0.053 |
| Leveraging modern analytic approaches to improve diabetes outcomes | EMORY UNIVERSITY | K01 | 2020 | 0.048 |
| Impact of Disparities Affecting Survival among Advanced Heart Failure Patients and Transplant Recipients | CLEVELAND CLINIC LERNER COM-CWRU | R01 | 2020 | 0.048 |
| Clinical and Molecular Epidemiology of High Risk Coronary Plaque | DUKE UNIVERSITY | R01 | 2020 | 0.047 |

**Cluster 45:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Towards cortical visual prosthetics | BOSTON CHILDREN'S HOSPITAL | R21 | 2010 | 0.16 |
| Representation of information across the human visual cortex | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2018 | 0.16 |
| Neural Coding of Visual Stimuli | NATIONAL INSTITUTE OF MENTAL HEALTH | ZIA | 2020 | 0.15 |
| Learning and updating internal visual models | ALBERT EINSTEIN COLLEGE OF MEDICINE, INC | R01 | 2017 | 0.15 |
| Perceptual bases of visual concepts | UNIVERSITY OF IOWA | R01 | 2010 | 0.15 |

**Cluster 46:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| ACTIVE: Abilities Captured Through Interactive Video Evaluation (DDT COA 000032) | RESEARCH INST NATIONWIDE CHILDREN'S HOSP | U01 | 2019 | 0.0013 |
| SCH: INT: A Context-aware Cuff-less Wearable Ambulatory Blood Pressure Monitor using a Bio-Impedance Sensor Array | TEXAS ENGINEERING EXPERIMENT STATION | R01 | 2020 | 0.00097 |
| Development of Ultrasonic Appratus for Dental Diagnosis | AAC INTERNATIONAL | R44 | 2004 | 0.00086 |
| Novel Use of Emergent Technologies to Improve Efficiency of Animal Model Research | ROCKSTEP SOLUTIONS, INC. | R44 | 2018 | -0.001 |
| Development of Ultrasonic Apparatus for Dental Diagnosis | AAC INTERNATIONAL | R43 | 2001 | -0.0011 |

**Cluster 47:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Understanding Functional Connectivity Abnormalities In Individual Patients with Psychosis | MASSACHUSETTS GENERAL HOSPITAL | K01 | 2020 | 0.12 |
| Bioinformatics and Analysis of Genomics High Throughput Data | CENTER FOR INFORMATION TECHNOLOGY | ZIA | 2020 | 0.11 |
| Avoidable Acute Care Use among Patients with Lupus | BRIGHAM AND WOMEN'S HOSPITAL | K23 | 2020 | 0.11 |
| Use of Machine Learning on Integrated Electronic Medical Record, Genetic and Waveform Data to Predict Perioperative Cardiorespiratory Instability | UNIVERSITY OF CALIFORNIA LOS ANGELES | K01 | 2020 | 0.099 |
| Studying pseudogout using naturallanguage processing and novelimaging approaches | BRIGHAM AND WOMEN'S HOSPITAL | K23 | 2020 | 0.09 |

**Cluster 48:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| IGF::CL::IGF MEETING SUPPORT FOR THE NATURAL LANGUAGE PROCESSING WORKSHOP OCTOBER 8, 2015. | SCIENTIFIC CONSULTING GROUP, INC. | N03 | 2015 | 0.078 |
| Biosurveillance Utilizing SNOMED-CT Based Natural Language Processing | MAYO CLINIC ROCHESTER | R01 | 2007 | 0.059 |
| Mining Complex Clinical Data for Patient Safety Research | COLUMBIA UNIVERSITY HEALTH SCIENCES | R18 | 2003 | 0.053 |
| Transforming Patient Safety Event Data into Actionable Insights through Advanced Analytics | MEDSTAR HEALTH RESEARCH INSTITUTE | R01 | 2020 | 0.047 |
| Natural Language Processing for Respiratory Surveillance | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | K22 | 2006 | 0.047 |

**Cluster 49:**

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| --- | --- | --- | --- | --- |
| 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 | 0.58 |
| 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 | 0.55 |
| Malaria Operations Research to Improve Malaria Control and Reduce Morbidity and Mortality in Western Kenya | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2020 | 0.48 |
| Environmental Modifications in sub-Saharan Africa: Changing Epidemiology, Transmission and Pathogenesis of Plasmodium falciparum and P. vivax Malaria | UNIVERSITY OF CALIFORNIA-IRVINE | U19 | 2019 | 0.47 |
| Towards noninvasive diagnosis of malaria | CHILDREN'S HOSP OF PHILADELPHIA | R21 | 2020 | 0.46 |

**Cluster 50:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Statistical Tests for Mapping Genetic Determinants of Complex Traits | EMORY UNIVERSITY | R01 | 2019 | 0.064 |
| Analysis, Validation and Resource Creation for Genome Sequencing of Complex Diseases | VANDERBILT UNIVERSITY | U01 | 2020 | 0.061 |
| Novel statistical methods and tools to integrate multiple endophenotypes and functional annotation data to study the roles of rare variants in complex human diseases using sequencing data | YALE UNIVERSITY | R01 | 2020 | 0.058 |
| Center for Multi- and Trans-ethnic Mapping of Mendelian and Complex Diseases | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | U01 | 2020 | 0.058 |
| Mathematical Models and Statistical Methods for Large-Scale Population Genomics | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2018 | 0.057 |

**Cluster 51:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Programmable RNA-targeting CRISPR-Cas tools to study RNA biology | UNIVERSITY OF ROCHESTER | R35 | 2020 | 0.3 |
| New methods for computational modeling of RNA structures | UNIVERSITY OF MISSOURI-COLUMBIA | R35 | 2020 | 0.27 |
| Computer Analysis of Nucleic Acid Structure | DIVISION OF BASIC SCIENCES - NCI | Z01 | 2007 | 0.26 |
| Computational genome-wide RNA profiling using next-generation sequencing | UNIVERSITY OF PENNSYLVANIA | R01 | 2016 | 0.25 |
| Defining the messenger RNP code in the brain | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.25 |

**Cluster 52:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Defining Genomic Signatures for Aberrant DNA Methylation in Human Cancers | EMORY UNIVERSITY | R01 | 2013 | 0.065 |
| Signals of Epigenetic Modification in Sjogrens Syndrome | UNIVERSITY OF CALIFORNIA BERKELEY | F31 | 2018 | 0.064 |
| Identification of epigenetic subclones in lymphomas and leukemias | WASHINGTON UNIVERSITY | F30 | 2020 | 0.061 |
| Epigenome Interactions in Complex Neurogenetic Disorders | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2015 | 0.058 |
| Comprehensive analysis of human adaptive immune receptors to elucidate correlates of Epstein-Barr virus disease suppression | UNIVERSITY OF KANSAS LAWRENCE | DP5 | 2020 | 0.051 |

**Cluster 53:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Applying NLP to Free Text as an EHR Data Capture Method to Improve EHR Usability | ZYDOC MEDICAL TRANSCRIPTION, LLC | R43 | 2012 | 0.14 |
| Enhance Arthroplasty Research through Electronic Health Records and Nlp-Enabled Informatics | MAYO CLINIC ROCHESTER | R01 | 2020 | 0.12 |
| Open Health Natural Language Processing Collaboratory | MAYO CLINIC ROCHESTER | U01 | 2020 | 0.11 |
| Patient Medical History Representation, Extraction, and Inference from EHR Data | UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON | R01 | 2018 | 0.11 |
| Natural language processing for clinical and translational research | MAYO CLINIC ROCHESTER | R01 | 2016 | 0.1 |

**Cluster 54:**

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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 | 0.26 |
| Computational Prediction and Functional Validation of Novel Risk Loci of Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.25 |
| Disparities in the Diagnosis of Alzheimer's Disease Among African American and European American Veterans | SEATTLE INST FOR BIOMEDICAL/CLINICAL RES | R56 | 2018 | 0.25 |
| Understanding mechanisms and seeking novel biomarkers in Alzheimer's disease | NATIONAL INSTITUTE ON AGING | ZIA | 2018 | 0.25 |
| Brain - Plasma Proteomics Biomarker Discovery and Validation in the US and UK | EMORY UNIVERSITY | RF1 | 2017 | 0.24 |

**Cluster 55:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| CRCNS: Learning the Neural Code for Prosthetic Control | BROWN UNIVERSITY | R01 | 2006 | 0.066 |
| STATISTICAL MODELING OF NEURAL INFORMATION ENCODING | MASSACHUSETTS GENERAL HOSPITAL | K02 | 2003 | 0.061 |
| Coding of auditory space in the avian brain | ALBERT EINSTEIN COLLEGE OF MEDICINE | R01 | 2014 | 0.057 |
| Mechanisms of neural circuit dynamics in working memory | PRINCETON UNIVERSITY | U01 | 2016 | 0.055 |
| Advancing understanding of neural representations of threat perception through a novel predictive coding framework | NORTHEASTERN UNIVERSITY | F32 | 2020 | 0.054 |

**Cluster 56:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A systems analysis of drug tolerance in Mycobacterium tuberculosis | INSTITUTE FOR SYSTEMS BIOLOGY | R01 | 2020 | 0.14 |
| Impacts of a Novel law-enforcement delivered intervention on drug user health | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2020 | 0.13 |
| Mining health data for drug safety profiles | STANFORD UNIVERSITY | R01 | 2017 | 0.13 |
| Detection of Potential Drug Effect Signals from Twitter Data | PURDUE UNIVERSITY | R15 | 2014 | 0.12 |
| An Integrative Approach to Drug Repositioning Using Decision Tree Based Machine Learning | WEILL MEDICAL COLL OF CORNELL UNIV | F31 | 2020 | 0.12 |

**Cluster 57:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Analysis of the T Cell Repertoire | DIVISION OF BASIC SCIENCES - NCI | ZIA | 2020 | 0.11 |
| Cell line identification with DNA replication timing fingerprints | INSILICOM, LLC | R43 | 2019 | 0.096 |
| High-throughput technology for automated single cell expression analysis for C. e | STANFORD UNIVERSITY | RC1 | 2010 | 0.092 |
| Identifying immunotherapy targets against thymus B cells in AChR myasthenia gravis (MG) | YALE UNIVERSITY | F31 | 2020 | 0.092 |
| Developing functional and authenticated RPE tissue from iPS cells | NATIONAL EYE INSTITUTE | ZIA | 2020 | 0.091 |

**Cluster 58:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Wireless EEG/PSG System with Novel Artifact Removal | CLEVELAND MEDICAL DEVICES, INC. | R43 | 2004 | 0.28 |
| A Non-invasive Single-trial In-vivo Neuroimaging System | COLUMBIA UNIV NEW YORK MORNINGSIDE | R33 | 2007 | 0.25 |
| Epileptic Seizures in the Neonatal EEG | UNIVERSITY OF HOUSTON | R01 | 2004 | 0.24 |
| MULTICHANNEL EEG DATA COMPRESSION | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2001 | 0.23 |
| Intelligent Adaptive Wireless Reconfigurable EEG | CLEVELAND MEDICAL DEVICES, INC. | R44 | 2005 | 0.22 |

**Cluster 59:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Histopathology correlated quantitative analysis of lung nodules with LDCT for early detection of lung cancer | UNIVERSITY OF MICHIGAN AT ANN ARBOR | U01 | 2020 | 0.24 |
| Macro-vasculature: A Novel Image Biomarker of Lung Cance | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.24 |
| Lung Screening: Efficacy versus Effectiveness | BROWN UNIVERSITY | R01 | 2020 | 0.23 |
| Lung cancer in East Africa and the relationship to HIV-1 infection: epidemiology, molecular characterization and imaging | CASE WESTERN RESERVE UNIVERSITY | U54 | 2020 | 0.23 |
| A diagnostic model for malignant pulmonary nodules | UNIVERSITY OF MARYLAND BALTIMORE | R21 | 2020 | 0.22 |