**Cluster 0:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Prediction of Major Adverse Kidney Events and Recovery (Pred-MAKER) in COVID-19 Patients | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2020 | 0.068 |
| High content in vivo screening for acute kidney injury ameliorating drugs | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2019 | 0.063 |
| Development and Validation of Computational Algorithms to Assess Kidney Health in Electronic Health Records | UNIVERSITY OF FLORIDA | K01 | 2020 | 0.06 |
| Information Systems for Detecting and Managing Acute Kidney Injury | VANDERBILT UNIVERSITY | R01 | 2010 | 0.056 |
| Artificial Intelligence to Predict Outcomes in Patients with Acute Kidney Injury on Continuous Renal Replacement Therapy | UNIVERSITY OF KENTUCKY | R56 | 2020 | 0.047 |

**Cluster 1:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| DNA Sequencing Using Single Molecule Electronics | UNIVERSITY OF CALIFORNIA-IRVINE | R01 | 2019 | 0.2 |
| BioHDF - Open Binary File Standards for Bioinformatics | GEOSPIZA, INC. | R41 | 2005 | 0.17 |
| Informatics Tools for High-Throughput Sequences Data Analysis | BROAD INSTITUTE, INC. | U01 | 2015 | 0.15 |
| The Enzymatic Reader | ELECTRONIC BIOSCIENCES, INC. | R43 | 2019 | 0.14 |
| Advanced computational methods in analyzing high-throughput sequencing data | DANA-FARBER CANCER INST | R01 | 2020 | 0.13 |

**Cluster 2:**

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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 |
| Alcohol consumption monitoring via a power-free wearable biosensor | LOGICINK CORPORATION | R43 | 2018 | 0.29 |
| 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 |
| 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 | 0.26 |

**Cluster 3:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Comprehensive functional characterization and dissection of noncoding regulatory elements and human genetic variation | BROAD INSTITUTE, INC. | UM1 | 2020 | 0.086 |
| Decoding the regulatory architecture of the human genome across cell types, individuals and disease | STANFORD UNIVERSITY | U01 | 2020 | 0.081 |
| Global Discovery and Validation of Functional Regulatory Elements | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R00 | 2017 | 0.074 |
| Development of a Neuronal Regulatory Lexicon | JOHNS HOPKINS UNIVERSITY | R01 | 2018 | 0.068 |
| Massively parallel dissection of psychiatric regulatory networks | J. DAVID GLADSTONE INSTITUTES | R01 | 2020 | 0.065 |

**Cluster 4:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Genome Wide Association Study of Head and Neck Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | R01 | 2013 | 0.085 |
| Machine Learning Prediction of Cancer Susceptibility | UNIVERSITY OF PENNSYLVANIA | R01 | 2014 | 0.067 |
| Genome-Wide Association Analysis of Bladder Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | U01 | 2012 | 0.065 |
| Machine Learning to Identify Complex Interactions in Genome-Wide Association Data | WAKE FOREST UNIVERSITY HEALTH SCIENCES | R01 | 2009 | 0.064 |
| Genetic Susceptibility and Risk Model for Pancreatic Cancer | UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON | R01 | 2016 | 0.063 |

**Cluster 5:**

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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 | 0.13 |
| Automated Knowledge Extraction for Biomedical Literature | BRANDEIS UNIVERSITY | R01 | 2006 | 0.12 |
| Protege: A Knowledge-Engineering Environment for Advancing Biomedical Sciences | STANFORD UNIVERSITY | R01 | 2020 | 0.11 |
| Developing and applying information extraction resources and technology to create | UNIVERSITY OF COLORADO DENVER | R01 | 2017 | 0.11 |
| Adaptive Information Monitoring and Extraction | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2009 | 0.11 |

**Cluster 6:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computational Prediction and Functional Validation of Novel Risk Loci of Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.3 |
| Assessing ASL CBF as a biomarker for early Alzheimer's disease detection and disease progression | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2020 | 0.28 |
| Computational Prediction and Functional Validation of Novel Epigenetic Risk Loci in Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.27 |
| Genetic Predictors, Transcriptomic Biomarkers, & Neurobiological Signatures of Resilience to Alzheimer's Disease | UPSTATE MEDICAL UNIVERSITY | R01 | 2020 | 0.26 |
| Circadian Organization and Disorder in Alzheimer's Disease | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.26 |

**Cluster 7:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Semi-supervised Algorithms for Risk Assessment with Noisy EHR Data | HARVARD SCHOOL OF PUBLIC HEALTH | R21 | 2020 | 0.16 |
| From enrichment to insights | STANFORD UNIVERSITY | R01 | 2020 | 0.16 |
| Applying NLP to Free Text as an EHR Data Capture Method to Improve EHR Usability | ZYDOC MEDICAL TRANSCRIPTION, LLC | R43 | 2012 | 0.15 |
| National Infrastructure for Standardized and Portable EHR Phenotyping Algorithms | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.15 |
| Better Outcomes for Children: Promoting Excellence in Healthcare Genomics to Inform Policy | CINCINNATI CHILDRENS HOSP MED CTR | U01 | 2019 | 0.13 |

**Cluster 8:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Decrypting Variants of Uncertain Significance in Long-QT Syndrome | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2017 | 0.12 |
| Clinically Relevant Genome Variation Database | STANFORD UNIVERSITY | U01 | 2016 | 0.1 |
| Predicting causal non-coding variants in a founder population | STANFORD UNIVERSITY | R01 | 2017 | 0.082 |
| Mechanisms underlying complex trait human disease | UNIV OF MARYLAND, COLLEGE PARK | R01 | 2016 | 0.079 |
| Regulation of mRNA splicing by intronic genetic variants | INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS | R01 | 2018 | 0.077 |

**Cluster 9:**

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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 | 0.37 |
| Addressing Major HIV Prevention and Health Outcomes Questions in an Era of Universal ART: Mentoring in a Community-Randomized Trial | BRIGHAM AND WOMEN'S HOSPITAL | K24 | 2020 | 0.35 |
| Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa | STANFORD UNIVERSITY | R01 | 2020 | 0.35 |
| Defining the impact of injection drug use on antiretroviral therapy and HIV treatment outcomes: an (epi)genomic approach | YALE UNIVERSITY | R01 | 2020 | 0.34 |
| NeuroAIDS in India | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2011 | 0.33 |

**Cluster 10:**

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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 | 0.42 |
| Evaluation of Pain in Chronic Pancreatitis using the NAPS2 cohorts | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R21 | 2015 | 0.4 |
| 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 11:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Integrated Prediction of Protein Struture at 1D, 2D and 3D Levels | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2013 | 0.2 |
| Advanced approaches to protein structure prediction | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R35 | 2020 | 0.18 |
| PREDOCTORAL FELLOWSHIPS FOR STUDENTS WITH DISABILITIES | PRINCETON UNIVERSITY | F31 | 2004 | 0.17 |
| Protein recognition for modular domains | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2012 | 0.16 |
| Very large datasets and new models to predict and design protein interactions | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2014 | 0.16 |

**Cluster 12:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Hippocampal and prefrontal contributions to memory integration | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2019 | 0.07 |
| The role of memory reactivation in emotional memory suppression and regulation | PRINCETON UNIVERSITY | F99 | 2020 | 0.065 |
| Dual Mechanisms of Cognitive Control | WASHINGTON UNIVERSITY | R37 | 2020 | 0.063 |
| Neurophysiological mechanisms of cognitive and emotional control in ADHD | OREGON HEALTH & SCIENCE UNIVERSITY | K23 | 2019 | 0.05 |
| Mapping Brain-Cognition Relationships which Encode Cognitive Deficits in Refractory Epilepsy | UNIV OF ARKANSAS FOR MED SCIS | R03 | 2019 | 0.044 |

**Cluster 13:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Cerebellar connectivity and error-based learning in infants at risk for autism | WASHINGTON UNIVERSITY | F31 | 2020 | 0.3 |
| Investigating quantitative signatures of autism in toddlers | COLUMBIA UNIVERSITY TEACHERS COLLEGE | R01 | 2020 | 0.28 |
| Novel video-based approaches for detection of autism risk in the first year of life | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.27 |
| Co-occurring ADHD in young children with ASD: Precursors, detection, neural signatures, and early treatment | DUKE UNIVERSITY | P50 | 2020 | 0.26 |
| Clinical algorithm for identifying adult autism | UNIVERSITY OF PENNSYLVANIA | R34 | 2015 | 0.25 |

**Cluster 14:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Systems Biology of Microbiome-mediated Resilience to Antibiotic-resistant Pathogens | SLOAN-KETTERING INST CAN RESEARCH | U01 | 2020 | 0.15 |
| Precision lung cancer therapy design through multiplexed adapter measurement | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2019 | 0.15 |
| Development of vector-specific, resistance-breaking insecticides to reduce malari | VIRGINIA POLYTECHNIC INST AND ST UNIV | R01 | 2013 | 0.13 |
| Infection Control Implications of Heterogeneous Resistance Mechanisms in Carbapenem-resistant Enterobacteriaceae (CRE) | JOHNS HOPKINS UNIVERSITY | R36 | 2017 | 0.13 |
| Integration of Evolution to Avoid Resistance in Structure Based Drug Design | UNIV OF MASSACHUSETTS MED SCH WORCESTER | R01 | 2020 | 0.13 |

**Cluster 15:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Delineating proactive social behaviors in dynamic and multidimensional social space | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R21 | 2020 | 0.21 |
| Studying how the hippocampal-prefrontal-hypothalamic circuit encodes social dominance | SALK INSTITUTE FOR BIOLOGICAL STUDIES | K99 | 2020 | 0.2 |
| Neural Circuit Mechanisms of Social Homeostasis in Individuals and Supraorganismal Social Groups | SALK INSTITUTE FOR BIOLOGICAL STUDIES | DP1 | 2020 | 0.19 |
| The Molecular Underpinnings of Complex Social Behavior | ROCKEFELLER UNIVERSITY | R35 | 2020 | 0.18 |
| BIGDATA: Small DA Social Behavior Driven Modeling and Optimization of Information | GEORGIA INSTITUTE OF TECHNOLOGY | R01 | 2015 | 0.18 |

**Cluster 16:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Development of clinical decision tools for management of diarrhea of children in high and low resource settings | UNIVERSITY OF UTAH | R01 | 2020 | 0.12 |
| Multi-Site Validation Study of the HLHS Arrest Predictor | BAYLOR COLLEGE OF MEDICINE | R01 | 2020 | 0.12 |
| Development and Validation of an Automated Measurement of Child Screen Media Use: FLASH | BAYLOR COLLEGE OF MEDICINE | R01 | 2020 | 0.11 |
| PREDICTING OUTCOME IN CHILDREN WITH NEW-ONSET TICS USING NEUROIMAGING DATA | WASHINGTON UNIVERSITY | R21 | 2016 | 0.11 |
| Predicting Heterogeneous Neurodevelopmental Outcomes in School-age Children with Early Caregiving Adversities | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2020 | 0.11 |

**Cluster 17:**

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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 | 0.084 |
| Quantitative Methods for Neuroimaging Studies of Interventions in Aging | UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN | K25 | 2015 | 0.072 |
| C-PAC: A configurable, compute-optimized, cloud-enabled neuroimaging analysis software for reproducible translational and comparative | CHILD MIND INSTITUTE, INC. | R24 | 2020 | 0.072 |
| Mapping normal developmental coupling between structural and functional brain networks and abnormalities associated with psychosis | UNIVERSITY OF PENNSYLVANIA | F31 | 2018 | 0.072 |
| Pattern Analysis of fMRI via machine learning/sparse models: application to brain development | UNIVERSITY OF PENNSYLVANIA | R01 | 2019 | 0.072 |

**Cluster 18:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| DNA Methylation and gene expression variations influence pituitary adenoma hormonal function and invasive growth | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2020 | 0.11 |
| Computational Methods for Expression Image Analysis | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R01 | 2013 | 0.089 |
| A MACHINE LEARNING APPROACH FOR FINE-SCALE GENOME WIDE DNA METHYLATION ANALYSIS | WASHINGTON UNIVERSITY | R21 | 2013 | 0.085 |
| REGULATORS OF EPIDERMAL GENE EXPRESSION | STANFORD UNIVERSITY | R01 | 2020 | 0.084 |
| Integrated SNP, gene expression and proteomic analysis | EPICENTER SOFTWARE | R44 | 2005 | 0.082 |

**Cluster 19:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Avoidable Acute Care Use among Patients with Lupus | BRIGHAM AND WOMEN'S HOSPITAL | K23 | 2020 | 0.11 |
| Understanding Functional Connectivity Abnormalities In Individual Patients with Psychosis | MASSACHUSETTS GENERAL HOSPITAL | K01 | 2020 | 0.1 |
| Multimodal Biomarkers in Frontotemporal Lobar Degeneration | UNIVERSITY OF PENNSYLVANIA | K01 | 2017 | 0.094 |
| Patient Oriented Research and Mentorship and Training in Functional Neuroimaging of Obsessive-Compulsive Disorder | YALE UNIVERSITY | K24 | 2020 | 0.094 |
| New Tools for the interpretation of Pathogen Genomic Data with a focus on Mycobacterium tuberculosis | HARVARD MEDICAL SCHOOL | K01 | 2019 | 0.091 |

**Cluster 20:**

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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 | 0.091 |
| Quantitative PET/CT Analysis to Improve Evaluation of Tumor Response | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2016 | 0.086 |
| Integration of endoscopic and CT data for radiation therapy treatment planning | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2018 | 0.079 |
| MDCT Quantification of hepatic tumor viability for assessment of cancer therapy | IQ MEDICAL IMAGING, LLC | R42 | 2019 | 0.073 |
| SBIR Phase I Topic 402 - Artificial Intelligence-Aided Imaging for Cancer Prevention, Diagnosis, and Monitoring | PHENOMAPPER, LLC | N43 | 2020 | 0.069 |

**Cluster 21:**

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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 | 0.46 |
| Asthma ascertainment and characterization through electronic health records | MAYO CLINIC ROCHESTER | R01 | 2017 | 0.45 |
| Multi-Omics Analysis of the Association of Polyunsaturated Fatty Acids with Asthma and Allergy in Childhood | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.41 |
| SCH: kHealth: Semantic Multisensory Mobile Approach to Personalized Asthma Care | WRIGHT STATE UNIVERSITY | R01 | 2018 | 0.4 |
| OBJECTIVE HOME MANAGEMENT OF PEDIATRIC ASTHMA EXACERBATION USING MOBILE TECHNOLOGY AND MACHINE LEARNING | AUSCULTECH DX, LLC | R41 | 2020 | 0.4 |

**Cluster 22:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Structural and Semantic Cues for the Acquisition of Linguistic Regularties | UNIVERSITY OF WISCONSIN-MADISON | F31 | 2011 | 0.21 |
| Statistical Learning in Language Acquisition | UNIVERSITY OF WISCONSIN-MADISON | R37 | 2019 | 0.21 |
| Neurocognitive determinants of adolescent second language literacy development | HASKINS LABORATORIES, INC. | R01 | 2015 | 0.2 |
| The When to Worry about Language Study (W2W-L): Joint consideration of developmental patterning and neural substrates for enhancing earlyidentification of language impairment | NORTHWESTERN UNIVERSITY | R01 | 2020 | 0.19 |
| Linking Language Comprehension to Production Patterns | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2008 | 0.19 |

**Cluster 23:**

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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 | 0.38 |
| Innovations in Suicide Prevention Research (INSPIRE) | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2020 | 0.37 |
| Digital Monitoring of Agitation for Short-Term Suicide Risk Prediction | MASSACHUSETTS GENERAL HOSPITAL | K23 | 2020 | 0.36 |
| Improving Suicide Prediction using NLP-Extracted Social Determinants of Health | UNIVERSITY OF MASSACHUSETTS LOWELL | R01 | 2020 | 0.35 |
| Using multimodal imaging and the RDoC framework to predict risk factors for suicide attempt | YALE UNIVERSITY | R03 | 2020 | 0.35 |

**Cluster 24:**

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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 |
| Informatics Techniques to Optimize Mammography for Aging Populations | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2016 | 0.26 |
| 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 |
| Convergent AI for Precise Breast Cancer Risk Assessment | METHODIST HOSPITAL RESEARCH INSTITUTE | R01 | 2020 | 0.26 |

**Cluster 25:**

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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 | 0.33 |
| New methods for computational modeling of RNA structures | UNIVERSITY OF MISSOURI-COLUMBIA | R35 | 2020 | 0.29 |
| The next generation of RNA-Seq simulators for benchmarking analyses | UNIVERSITY OF PENNSYLVANIA | R21 | 2019 | 0.28 |
| Defining the messenger RNP code in the brain | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.27 |
| Computational genome-wide RNA profiling using next-generation sequencing | UNIVERSITY OF PENNSYLVANIA | R01 | 2016 | 0.26 |

**Cluster 26:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| PACS INFRASTRUCTURE TO SUPPORT-BASED MEDICAL PRACTICE | UNIVERSITY OF CALIFORNIA LOS ANGELES | P01 | 2004 | 0.13 |
| UMLS ENHANCED DYNAMIC AGENTS TO MANAGE MEDICAL KNOWLEDGE | UNIVERSITY OF ARIZONA | R01 | 2003 | 0.12 |
| Engineering Approach to Individually Tailored Medicine | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2007 | 0.11 |
| Using Narrative Data to Enrich the Online Medical Record | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2004 | 0.095 |
| HERMES - Help physicians to Extract and aRticulate Multimedia information from li | UNIVERSITY OF WISCONSIN MILWAUKEE | R01 | 2009 | 0.09 |

**Cluster 27:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Continued Development of CellProfiler Cell Image Analysis Software | BROAD INSTITUTE, INC. | R01 | 2016 | 0.059 |
| Intelligent and Automatic Image Segmentation Software for High ThroughputAnalysi | CYTOINFORMATICS, LLC | R41 | 2014 | 0.054 |
| Multimodal image registration by proxy image synthesis | JOHNS HOPKINS UNIVERSITY | R01 | 2015 | 0.053 |
| Advancing algorithms for image-based profiling | BROAD INSTITUTE, INC. | R35 | 2020 | 0.052 |
| Continued development of CellProfiler cell image analysis software | BROAD INSTITUTE, INC. | R01 | 2013 | 0.05 |

**Cluster 28:**

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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 | 0.2 |
| Administrative Supplement Request for Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2016 | 0.2 |
| Fisk University/UIUC-Mayo KnowENG BD2K Center R25 Partnership | FISK UNIVERSITY | R25 | 2019 | 0.18 |
| Big Data Coursework for Computational Medicine | WEILL MEDICAL COLL OF CORNELL UNIV | R25 | 2016 | 0.17 |
| Summer Institute for Statistics of Big Data | UNIVERSITY OF WASHINGTON | R25 | 2016 | 0.14 |

**Cluster 29:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| UCSC-Buck Inst. Genome Data Analysis Center for TCGA Research Network (GDAC) | UNIVERSITY OF CALIFORNIA SANTA CRUZ | U24 | 2016 | 0.1 |
| Visualization and Analysis of the TCGA Data Using the UCSC Cancer Genomics Browse | UNIVERSITY OF CALIFORNIA SANTA CRUZ | R21 | 2009 | 0.09 |
| Gene-Gene Interactions and Their Functional Roles in Prostate Cancer Aggressiveness | LSU HEALTH SCIENCES CENTER | R21 | 2017 | 0.085 |
| Integrative Cancer Genomics: Drivers, Pathways and Drugs | COLUMBIA UNIV NEW YORK MORNINGSIDE | R01 | 2016 | 0.079 |
| A Federated Galaxy for user-friendly large-scale cancer genomics research | OREGON HEALTH & SCIENCE UNIVERSITY | U24 | 2020 | 0.077 |

**Cluster 30:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Improving diabetes and depression self-management via adaptive mobile messaging | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2020 | 0.026 |
| Validating Machine-Learned Classifiers of Sedentary Behavior and Physical Activit | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2015 | 0.017 |
| Enabling Population-Scale Physical Activity Measurement on Common Mobile Phones | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | U01 | 2010 | 0.014 |
| Leveraging Artificial Intelligence for the assessment of severity of depressive symptoms | MASSACHUSETTS GENERAL HOSPITAL | R01 | 2020 | 0.013 |
| Artificial Intelligence in a Mobile Intervention for Depression (AIM) | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2017 | 0.013 |

**Cluster 31:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Identifying Receipt of Colorectal Cancer Screening | VANDERBILT UNIVERSITY | R21 | 2008 | 0.086 |
| Improving Critical Congenital Heart Disease Screening and Detection of "Secondary" Targets | UNIVERSITY OF CALIFORNIA AT DAVIS | R21 | 2020 | 0.085 |
| Spectral precision imaging for early diagnosis of colorectal lesions with CT colonography | MASSACHUSETTS GENERAL HOSPITAL | R01 | 2020 | 0.08 |
| Early Detection of Keratoconus | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2013 | 0.072 |
| Quantitative topographic endoscopy for improved screening of non-polypoid colorectal neoplasms | JOHNS HOPKINS UNIVERSITY | R21 | 2019 | 0.064 |

**Cluster 32:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| An Intracortical Brain-Computer Interface Model for High Efficiency Development of Closed-Loop Neural Decoding Algorithms | FLORIDA INTERNATIONAL UNIVERSITY | R01 | 2020 | 0.078 |
| CRCNS: Learning the Neural Code for Prosthetic Control | BROWN UNIVERSITY | R01 | 2006 | 0.076 |
| ANALYSIS OF NONSTATIONARY NEURAL DATA | CARNEGIE-MELLON UNIVERSITY | R01 | 2019 | 0.07 |
| A Comparative Framework for Modeling the Low-Dimensional Geometry of Neural Population States | GEORGIA INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.068 |
| Fully Implantable and Programmable Spike-based Codecs for Neuroprosthetics | STANFORD UNIVERSITY | R01 | 2015 | 0.066 |

**Cluster 33:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Leveraging modern analytic approaches to improve diabetes outcomes | EMORY UNIVERSITY | K01 | 2020 | 0.059 |
| Automated quantitative CT imaging of epicardial adipose tissue and risk of cardiac events | CEDARS-SINAI MEDICAL CENTER | R01 | 2019 | 0.058 |
| Prediction of short-term risk of coronary heart disease and overall risk of ischemic cardiomyopathy | STANFORD UNIVERSITY | F32 | 2018 | 0.056 |
| Geometric Surrogates for Clinical Management of Abdominal Aortic Aneurysms | UNIVERSITY OF TEXAS SAN ANTONIO | R01 | 2018 | 0.048 |
| Exploring the Feasibility of Computational Markers to Predict Atrial Fibrillation | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R21 | 2013 | 0.044 |

**Cluster 34:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Macro-vasculature: A Novel Image Biomarker of Lung Cance | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.26 |
| Lung cancer in East Africa and the relationship to HIV-1 infection: epidemiology, molecular characterization and imaging | CASE WESTERN RESERVE UNIVERSITY | U54 | 2020 | 0.26 |
| EARLY DETECTION OF LUNG CANCER USING METABOLOMIC LIPID PROFILING | RUSH UNIVERSITY MEDICAL CENTER | R21 | 2014 | 0.25 |
| High Density Association Analysis of Lung Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | R01 | 2010 | 0.25 |
| Histopathology correlated quantitative analysis of lung nodules with LDCT for early detection of lung cancer | UNIVERSITY OF MICHIGAN AT ANN ARBOR | U01 | 2020 | 0.25 |

**Cluster 35:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Digital Mammography: Advanced Computer-Aided Breast Can\* | UNIVERSITY OF MICHIGAN | R01 | 2007 | 0.34 |
| Improving Breast Cancer Detection and Diagnosis with CAD | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2011 | 0.33 |
| Digital Tomosynthesis Mammography: Computer-Aided Analysis of Masses | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R33 | 2009 | 0.31 |
| Toward Diagnostics and Therapies of Molecular Subcategories of CAD | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2018 | 0.3 |
| COMPUTER AIDED DIAGNOSIS IN CHEST RADIOGRAPHY | UNIVERSITY OF CHICAGO | R01 | 2004 | 0.28 |

**Cluster 36:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Functional Cardiovascular 4D MRI in Congenital Heart Disease | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2020 | 0.14 |
| Machine learning for fast motion compensated quantitative abdominal DCE-MRI | BOSTON CHILDREN'S HOSPITAL | R21 | 2020 | 0.12 |
| Rapid motion-robust quantitative DCE-MRI for the assessment of gynecologic cancers | SLOAN-KETTERING INST CAN RESEARCH | R01 | 2020 | 0.12 |
| Noninvasive imaging-based electrophysiology using microelectronic devices | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2015 | 0.11 |
| Enabling Kinematic Joint Profiling Using MRI | MEDICAL COLLEGE OF WISCONSIN | R21 | 2020 | 0.11 |

**Cluster 37:**

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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 | 0.44 |
| An Olfactory Method for Controlling Cigarette Craving | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2017 | 0.39 |
| An Olfactory Method for Controlling Cigarette Craving - Supplement | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2015 | 0.39 |
| Smoking Cessation Coach--An Internet Tailoring Program | JOHNS HOPKINS UNIVERSITY | R21 | 2002 | 0.38 |
| Eliminating Tobacco-Related Disparities amount African American Smokers | UNIVERSITY OF UTAH | R01 | 2020 | 0.38 |

**Cluster 38:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| ABCD-USA Consortium: Research Project | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2019 | 0.35 |
| 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 | 0.27 |
| ABCD-USA Consortium: Data Analysis Center | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U24 | 2019 | 0.21 |
| Missing Data Matters: Substance Use Disorder Clinical Trials | JOHNS HOPKINS UNIVERSITY | R01 | 2020 | 0.2 |

**Cluster 39:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A MOLECULAR CODE FOR CONNECTIVITY IN THE NEOCORTEX | BAYLOR COLLEGE OF MEDICINE | R01 | 2016 | 0.12 |
| Reverse Engineering the Brain Stem Circuits that Govern Exploratory Behavior | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U19 | 2020 | 0.12 |
| Experimental examinations of the mechanisms that generate the responses of midbra | HARVARD UNIVERSITY | R01 | 2017 | 0.11 |
| Mapping the neural circuitry underlying walking | COLUMBIA UNIVERSITY HEALTH SCIENCES | F32 | 2020 | 0.11 |
| Revealing the connectivity and functionality of brain stem circuits | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2016 | 0.1 |

**Cluster 40:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Leveraging National Sleep Research Resource Data for Personalized Sleep Profiling | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2020 | 0.4 |
| Cardiovascular implications of sleep characteristics using real-world objective sleep data | UNIVERSITY OF WASHINGTON | R21 | 2020 | 0.38 |
| Enhanced Measurement and Modeling of Sleep Electrophysiology to Better Understand Sleep Disparities | BRIGHAM AND WOMEN'S HOSPITAL | R21 | 2020 | 0.38 |
| Sleep Health Profiles in Middle-aged Workers in Relation to Cardiovascular and Cognitive Health | UNIVERSITY OF SOUTH FLORIDA | R56 | 2020 | 0.37 |
| Administrative Supplement for Sleep and Cardiometabolic Health Disparities at the US/Mexico Border: The Nogales Cardiometabolic Health and Sleep (NoCHeS) Study | UNIVERSITY OF ARIZONA | R01 | 2019 | 0.37 |

**Cluster 41:**

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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 | 0.15 |
| A systems analysis of drug tolerance in Mycobacterium tuberculosis | INSTITUTE FOR SYSTEMS BIOLOGY | R01 | 2020 | 0.13 |
| Detection of Potential Drug Effect Signals from Twitter Data | PURDUE UNIVERSITY | R15 | 2014 | 0.12 |
| Predicting Drug Cardiotoxicity Targets Using iPSC-Derived Cardiomyocytes and Machine Learning | CORNELL UNIVERSITY | F31 | 2020 | 0.12 |
| Impacts of a Novel law-enforcement delivered intervention on drug user health | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2020 | 0.12 |

**Cluster 42:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| DaTscan-based Disease Progression Models for Early-stage Parkinson’s Disease | YALE UNIVERSITY | R01 | 2020 | 0.038 |
| Metabolomics and risk of Parkinson's Disease | HARVARD SCHOOL OF PUBLIC HEALTH | R01 | 2019 | 0.032 |
| Analytic Methods for Determining Multimodal Biomarkers for Parkinson's Disease | COLUMBIA UNIVERSITY HEALTH SCIENCES | U18 | 2014 | 0.027 |
| Identifying individuals at risk of progression to active tuberculosis | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2020 | 0.025 |
| Identifying Huntington's disease markers by modern statistical learning methods. | COLUMBIA UNIVERSITY HEALTH SCIENCES | U01 | 2016 | 0.025 |

**Cluster 43:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Reactome IDG portal: Pathway-based analysis and visualization of understudied human proteins | OREGON HEALTH & SCIENCE UNIVERSITY | U01 | 2020 | 0.074 |
| Metal binding sites in macromolecular structures | UNIVERSITY OF VIRGINIA | R01 | 2019 | 0.069 |
| Computational tools for T- and B-cell epitope prediction | UNIVERSITY OF TEXAS MED BR GALVESTON | R01 | 2010 | 0.066 |
| 2007 Small Intergin Binding Proteins Gordon Research Conference | GORDON RESEARCH CONFERENCES | R13 | 2007 | 0.064 |
| Dissecting the roles of superchaperones in type III secretion | MASSACHUSETTS GENERAL HOSPITAL | R21 | 2012 | 0.061 |

**Cluster 44:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Identifying Mechanisms of Dementia: Role for MRI in the Era of Molecular Imaging | MAYO CLINIC ROCHESTER | R01 | 2012 | 0.13 |
| Changing Talk Online (CHATO): A Pragmatic Trial to Reduce Behavioral Symptoms in Dementia Care | UNIVERSITY OF KANSAS MEDICAL CENTER | R61 | 2019 | 0.13 |
| Planning Changing Talk Online (CHATO): a Clinical Trial Testing the Effects of Online Communication Training for Nursing Home Staff on Behavioral and Psychological Symptoms of Residents with Dementia | UNIVERSITY OF KANSAS MEDICAL CENTER | R34 | 2018 | 0.13 |
| 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 | 0.13 |
| CATcare: Cognitive Assistive Technology for Dementia Homecare | OKLAHOMA STATE UNIVERSITY STILLWATER | R15 | 2019 | 0.12 |

**Cluster 45:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A New Model of Peptide Fragmentation for Improved Protein Identification and Targ | UNIVERSITY OF COLORADO | R01 | 2015 | 0.25 |
| Improving Diagnosis of Multiple Sclerosis Through the Integration of Novel Imaging and Laboratory Biomarkers | UNIVERSITY OF VERMONT & ST AGRIC COLLEGE | K02 | 2020 | 0.23 |
| Sequential Ion/Ion Reactions for Large Peptide and Whole Protein Characterization | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2015 | 0.22 |
| Novel Strategies to Identify GxE Contributions to MS Pathogenesis | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2015 | 0.2 |
| Intelligent Aids for Proteomic Data Mining | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | K25 | 2008 | 0.2 |

**Cluster 46:**

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

**Cluster 47:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Advanced Computational Framework for Decision Support in Critically Ill Children | CHILDREN'S HOSPITAL OF LOS ANGELES | RC1 | 2010 | 0.045 |
| Decision Support in the Care of Preterm Newborns-Tool Development | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R21 | 2009 | 0.044 |
| 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 | 0.043 |
| TREAT ECARDS: Translating Evidence into Action: Electronic Clinical Decision Support in ARDS | ALBERT EINSTEIN COLLEGE OF MEDICINE | R18 | 2020 | 0.042 |
| Automatic Acquisition of Knowledge for Senior Care Planning | MY HEALTH CARE | R44 | 2011 | 0.041 |

**Cluster 48:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Open Health Natural Language Processing Collaboratory | MAYO CLINIC ROCHESTER | U01 | 2020 | 0.097 |
| CLAMP-CS: a Cloud-based, Service-oriented, high-performance Natural Language Processing Platform for Healthcare | MELAX TECHNOLOGIES, INC. | R44 | 2020 | 0.094 |
| Annotation, development and evaluation for clinical information extraction | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2013 | 0.091 |
| Annotation, development and evaluation for clinical information extraction (transfer) | BOSTON CHILDREN'S HOSPITAL | R01 | 2013 | 0.091 |
| Extended Methods and Software Development for Health NLP | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2019 | 0.089 |

**Cluster 49:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| MACE - Michigan Alliance for Cheminformatic Exploration | UNIVERSITY OF MICHIGAN | P20 | 2007 | 0.14 |
| Computerized Radiographic Analysis of Bone Structure | UNIVERSITY OF CHICAGO | R01 | 2005 | 0.13 |
| FOUNDATION MODEL OF ANATOMY | UNIVERSITY OF WASHINGTON | R01 | 2002 | 0.12 |
| VOICE RESPONSE/INTERNET REGISTRATION & RANDOMIZATION | RHO FEDERAL SYSTEMS DIVISION, INC. | R44 | 2002 | 0.12 |
| INTELLIGENT CRITIQUING OF CLINICAL-GUIDELINE APPLICATION | STANFORD UNIVERSITY | R01 | 2000 | 0.11 |

**Cluster 50:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Development and Evaluation of a Learning Electronic Medical Record System | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2018 | 0.19 |
| Vanderbilt Genome-Electronic Records Project | VANDERBILT UNIVERSITY | U01 | 2011 | 0.18 |
| Informatics Tools for Pharmacogenomic Discovery using Practice-based Data | VANDERBILT UNIVERSITY MEDICAL CENTER | R01 | 2017 | 0.17 |
| EMR-Linked Biobank for Translational Genomics | GEISINGER CLINIC | U01 | 2019 | 0.16 |
| Genetic Discovery and Application in a Clinical Setting Continuing a Partnership | KAISER FOUNDATION HEALTH PLAN OF WASHINGTON | U01 | 2014 | 0.15 |

**Cluster 51:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Automated Facial Expression Analysis for Research and Clinical Use | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2016 | 0.23 |
| 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 | 0.21 |
| 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 | 0.2 |
| COMPUTER VISION ANALYSIS OF DYNAMIC FACIAL BEHAVIOR | UNIVERSITY OF CALIFORNIA SAN DIEGO | F32 | 2001 | 0.19 |

**Cluster 52:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| STATISTICAL METHODS FOR RECURSIVELY PARTITIONED TREES | BARNES-JEWISH HOSPITAL | R01 | 2002 | 0.015 |
| Nathan Shock Center of Excellence in Basic Biology of Aging | UNIVERSITY OF WASHINGTON | P30 | 2020 | 0.0097 |
| FluMod - Center for the Multiscale Modeling of Pandemic and seasonal Flu Prevention and Control | NORTHEASTERN UNIVERSITY | U01 | 2020 | 0.0096 |
| A Simulation Tool to Enable Identification of Critical Network Interactions Using | CFD RESEARCH CORPORATION | R43 | 2008 | 0.0091 |
| Inference in Regression Models with Missing Covariates | UNIVERSITY OF NORTH CAROLINA CHAPEL HILL | R01 | 2003 | 0.0086 |

**Cluster 53:**

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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 | 0.14 |
| Symmetry breaking and polarization of cell in 3D environments | UT SOUTHWESTERN MEDICAL CENTER | F32 | 2017 | 0.13 |
| Defining cell types, lineage, and connectivity in developing human fetal cortex | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2016 | 0.13 |
| In situ transcriptome profiling in single cells | CALIFORNIA INSTITUTE OF TECHNOLOGY | UH3 | 2020 | 0.13 |
| Single-cell multi-protein device for informative cellular function evaluation | ISOPLEXIS, INC. | R43 | 2016 | 0.12 |

**Cluster 54:**

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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 | 0.35 |
| Wearable silent speech technology to enhance impaired oral communication | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.33 |
| Objectively Quantifying Speech Outcomes of Children with Cleft Palate | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R21 | 2019 | 0.32 |
| Multimodal Speech Translation for Assistive Communication | NORTHEASTERN UNIVERSITY | R21 | 2015 | 0.32 |
| Using Speech Acoustics to Reveal Motor Disruptions in Psychosis | NORTHWESTERN UNIVERSITY | R21 | 2020 | 0.32 |

**Cluster 55:**

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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 | 0.23 |
| Restoring arm and hand motor function with non-invasive spinal stimulation. | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2013 | 0.23 |
| A Theranostic Tool to Assess and Enable Spared Spinal Motor Function After SCI | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2014 | 0.22 |
| Enabling forelimb function with agonist drug and epidural stimulation in SCI | UNIVERSITY OF CALIFORNIA LOS ANGELES | U01 | 2017 | 0.2 |
| Computational modeling of 60Hz STN DBS for gait disorder in Parkinson's disease | FEINSTEIN INSTITUTE FOR MEDICAL RESEARCH | R21 | 2019 | 0.18 |

**Cluster 56:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Development of the Strength Band Platform, a Technology Assisted Therapy Platform to Aid with Opioid Abuse Treatment. | OPIAID, LLC | R43 | 2020 | 0.094 |
| iTransform: Wearable Biosensors to Detect the Evolution of Opioid Tolerance in Opioid Naïve Individuals | UNIV OF MASSACHUSETTS MED SCH WORCESTER | K23 | 2020 | 0.093 |
| 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 | 0.091 |
| Project FIGARO - Factors Important to Gather for Anticipating Relapses for Opioids | BEHAIVIOR, LLC | R43 | 2018 | 0.088 |
| Biosignatures of opioid addiction treatment success | BIOREALM | R43 | 2018 | 0.084 |

**Cluster 57:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Model-guided design of next-generation bacterial therapeutics to treat cardiovascular disease | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2020 | 0.22 |
| Combining chemical and computational tools for predictive models of microbiome communities | UNIVERSITY OF PENNSYLVANIA | R35 | 2020 | 0.22 |
| Impact of Gastrointestinal Microbiome on the Host Response to an Effector-Memory T-Cell AIDS Vaccine and Multiple Low-Dose Challenge | NORTH CAROLINA STATE UNIVERSITY RALEIGH | R21 | 2016 | 0.19 |
| Bayesian Machine Learning Tools for Analyzing Microbiome Dynamics | BRIGHAM AND WOMEN'S HOSPITAL | R01 | 2020 | 0.18 |
| Joint Analysis of Microbiome and Other Genomic Data Types | FRED HUTCHINSON CANCER RESEARCH CENTER | R01 | 2019 | 0.17 |

**Cluster 58:**

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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 | 0.34 |
| Fast and Easy Assessment of Stroke | ALVA HEALTH, INC. | R43 | 2019 | 0.32 |
| Sleep apnea after stroke: Implications for screening and treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.32 |
| Whole Transcriptome Studies of Patients with Transient Ischemic Attacks (TIAs) | UNIVERSITY OF CALIFORNIA AT DAVIS | R01 | 2020 | 0.3 |
| Enhancing Stroke Prehospital and Emergency Evaluation and Delivery (E-SPEED) | UNIVERSITY OF CHICAGO | R18 | 2020 | 0.29 |

**Cluster 59:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Metal mixtures, children's cognition, and sensitive developmental windows | BOSTON UNIVERSITY MEDICAL CAMPUS | R00 | 2017 | 0.17 |
| Spatiotemporal Risk Assessment Modeling of Chemical Mixtures | OREGON STATE UNIVERSITY | K99 | 2019 | 0.17 |
| Principal Component Pursuit to Assess Exposure to Environmental Mixtures in Epidemiologic Studies | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.17 |
| A Direct Reading Video Assessment Instrument for Repetitive Motion Stress | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2018 | 0.15 |
| Cardiovascular health and exposure to PM2.5 constituents: a multi-cohort study | EMORY UNIVERSITY | R01 | 2020 | 0.15 |