**Cluster 0:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Endogenous fluorescence lifetime endoscopy for early detection of oral cancer and dysplasia | UNIVERSITY OF OKLAHOMA NORMAN | R01 | 2020 | 0.087 |
| Low-Cost and Compact Multimodal Intraoral Confocal Probe for Oral Cancer Detection and Diagnosis | UNIVERSITY OF ARIZONA | R21 | 2020 | 0.085 |
| microRNA signatures of tobacco carcinogen induced oral cancer | UNIVERSITY OF ILLINOIS AT CHICAGO | R03 | 2010 | 0.07 |
| MICRORNA BIOMARKERS FOR OROPHARYNGEAL CANCER | UNIVERSITY OF ILLINOIS AT CHICAGO | R01 | 2020 | 0.066 |
| Development and feasibility of prevention-minded oral health mobile App based on dietary selections and oral hygiene events. | INDIANA NANOTECH, LLC | R43 | 2018 | 0.057 |

**Cluster 1:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Neuromodulatory control of collective circuit dynamics in C. elegans | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.17 |
| Center for Cell Circuits | BROAD INSTITUTE, INC. | P50 | 2015 | 0.15 |
| High Resolution Connectomics of Mammalian Neural Circuits | HARVARD UNIVERSITY | R01 | 2015 | 0.15 |
| Cerebellar network mapping with a high-throughput TEM platform | HARVARD MEDICAL SCHOOL | RF1 | 2017 | 0.14 |
| Instructive Signals for Motor Learning | STANFORD UNIVERSITY | R01 | 2019 | 0.13 |

**Cluster 2:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| FUNCTIONAL BRAIN NETWORK DEVELOPMENT IN EARLY CHILDHOOD DEPRESSION | WASHINGTON UNIVERSITY | K23 | 2015 | 0.11 |
| An Expert System to Reduce Depression in Primary Care | PRO-CHANGE BEHAVIOR SYSTEMS, INC. | R44 | 2004 | 0.087 |
| Biosignatures of Treatment Remission in Major Depression | COLUMBIA UNIVERSITY HEALTH SCIENCES | U01 | 2015 | 0.085 |
| Mid-frontal delta/theta rhythms and cognitive control in PD | UNIVERSITY OF IOWA | R01 | 2020 | 0.083 |
| Intrinsic Cortical Networks and Cognitive Dysfunction in Parkinson's Disease | UNIVERSITY OF COLORADO DENVER | K02 | 2017 | 0.08 |

**Cluster 3:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| PAGES: Physical Activity Genomics, Epigenomics/transcriptomics Site | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | U24 | 2020 | 0.25 |
| Advancing Physical Activity Measurement Using Pattern Recognition Techniques | UNIVERSITY OF MASSACHUSETTS AMHERST | RC1 | 2010 | 0.22 |
| Novel Models to Predict Energy Expenditure and Physical Activity in Preschoolers | BAYLOR COLLEGE OF MEDICINE | R01 | 2013 | 0.22 |
| Novel Analytic Techniques to Assess Physical Activity | UNIVERSITY OF MASSACHUSETTS AMHERST | R01 | 2010 | 0.21 |
| Machine Learning Algorithms to Measure Physical Activity in Children with Cerebral Palsy | DREXEL UNIVERSITY | R21 | 2017 | 0.2 |

**Cluster 4:**

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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 | 0.29 |
| Background parenchymal uptake (BPU) on molecular breast imaging as a novel breast cancer risk factor | MAYO CLINIC ROCHESTER | R21 | 2016 | 0.29 |
| Informatics Techniques to Optimize Mammography for Aging Populations | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2016 | 0.29 |
| A Noninvasive, Precision Medicine Approach to Improve Breast Cancer Screening Using Cell-free RNA from Saliva. | PRIME GENOMICS, INC. | R43 | 2019 | 0.29 |
| A computer model to improve breast cancer diagnosis | UNIVERSITY OF WISCONSIN-MADISON | K07 | 2010 | 0.26 |

**Cluster 5:**

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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 | 0.011 |
| Extracting rich information from biological images | BROAD INSTITUTE, INC. | R35 | 2018 | 0.01 |
| Advancing algorithms for image-based profiling | BROAD INSTITUTE, INC. | R35 | 2020 | 0.01 |
| SPOTs: Optical Technologies for Instantly Quantifying Multicellular Response Profiles | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2020 | 0.0074 |
| Novel deep learning strategy to better predict pharmacological properties of candidate drugs and focus discovery efforts | COLLABORATIVE DRUG DISCOVERY, INC. | R44 | 2020 | 0.0073 |

**Cluster 6:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| EARLY DETECTION OF LUNG CANCER USING METABOLOMIC LIPID PROFILING | RUSH UNIVERSITY MEDICAL CENTER | R21 | 2014 | 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 | 0.25 |
| Histopathology correlated quantitative analysis of lung nodules with LDCT for early detection of lung cancer | UNIVERSITY OF MICHIGAN AT ANN ARBOR | U01 | 2020 | 0.24 |
| Statistical Methods for Gene Environment Interactions In Lung Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | R01 | 2009 | 0.24 |
| Lung Screening: Efficacy versus Effectiveness | BROWN UNIVERSITY | R01 | 2020 | 0.24 |

**Cluster 7:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| From enrichment to insights | STANFORD UNIVERSITY | R01 | 2020 | 0.12 |
| National Infrastructure for Standardized and Portable EHR Phenotyping Algorithms | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.12 |
| Algorithms to Identify Systemic Lupus from Electronic Health Record Data | NORTHWESTERN UNIVERSITY AT CHICAGO | R21 | 2018 | 0.11 |
| Applying NLP to Free Text as an EHR Data Capture Method to Improve EHR Usability | ZYDOC MEDICAL TRANSCRIPTION, LLC | R43 | 2012 | 0.1 |
| Advancing Cancer Pharmacoepidemiology Research Through EHRs and Informatics | UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON | U24 | 2020 | 0.1 |

**Cluster 8:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| A Study of the Computational Space of Facial Expressions of Emotion | OHIO STATE UNIVERSITY | R01 | 2014 | 0.24 |
| Automated Facial Expression Analysis for Research and Clinical Use | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2016 | 0.23 |
| FACIAL EXPRESSION ANALYSIS BY IMAGE PROCESSING | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2005 | 0.2 |
| COMPUTER VISION ANALYSIS OF DYNAMIC FACIAL BEHAVIOR | UNIVERSITY OF CALIFORNIA SAN DIEGO | F32 | 2001 | 0.19 |
| 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 | 0.17 |

**Cluster 9:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Estimating Population Effects in Mental Health Research Using Meta-Analysis | DUKE UNIVERSITY | R00 | 2020 | 0.24 |
| Assisted Identification and Navigation of Early Mental Health Symptoms in Youth | KAISER FOUNDATION RESEARCH INSTITUTE | R56 | 2018 | 0.22 |
| Real-Time Mobile Cognitive Behavioral Intervention for Serious Mental Illness | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.2 |
| Impact of Telemedicine on Medicare Beneficiaries with Mental Illness | HARVARD MEDICAL SCHOOL | R01 | 2020 | 0.19 |
| Discovery of Mental Health and Inflammation (MHAIN) Interactome | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2015 | 0.17 |

**Cluster 10:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Micropublications for Automating Genome Sequence Variant Interpretation from Medical Literature | GENOMENON, INC. | R43 | 2019 | 0.17 |
| Predicting causal non-coding variants in a founder population | STANFORD UNIVERSITY | R01 | 2017 | 0.17 |
| Comprehensive Characterization of Missense Mutants in Factor IX | BLOODWORKS | R01 | 2020 | 0.16 |
| Discovery of pathogenic germline variants in pediatric cancers using genomics. | COLUMBIA UNIVERSITY HEALTH SCIENCES | F31 | 2018 | 0.15 |
| Discovering Novel Structural Genomic Rearrangements Using Deep Neural Networks | UNIVERSITY OF MICHIGAN AT ANN ARBOR | F31 | 2020 | 0.15 |

**Cluster 11:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Neuroimaging-based biomarkers for two components of pain | COLUMBIA UNIV NEW YORK MORNINGSIDE | RC1 | 2010 | 0.41 |
| Central glutamate signaling in postoperative pain regulation - Renewal | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | R01 | 2020 | 0.41 |
| fMRI-based Biomarkers for Multiple Components of Pain | UNIVERSITY OF COLORADO | R01 | 2017 | 0.41 |
| Evaluation of Pain in Chronic Pancreatitis using the NAPS2 cohorts | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R21 | 2015 | 0.4 |
| Development of a Medical Device Utilizing an EEG-Based Algorithm for the Objective Quantification of Pain | PAINQX, INC. | R44 | 2020 | 0.39 |

**Cluster 12:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Risk Assessment of Influenza A Viruses | MISSISSIPPI STATE UNIVERSITY | R21 | 2019 | 0.095 |
| Computational Studies of Virus-host Interactions Using Metagenomics Data and Applications | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2020 | 0.091 |
| Fluomics: The Next Generation | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | U19 | 2020 | 0.085 |
| Integrating Bioinformatics and Clustering Analysis for Disease Surveillance | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | F31 | 2018 | 0.085 |
| Consortium for Immunotherapeutics against Emerging Viral Threats | LA JOLLA INSTITUTE FOR IMMUNOLOGY | U19 | 2020 | 0.084 |

**Cluster 13:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Sex Differences in Alcohol-Related Neurotoxicity During Adolescence | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2020 | 0.16 |
| How Cannabis Use Affects Alcohol Treatment Outcomes | PUBLIC HEALTH INSTITUTE | R21 | 2016 | 0.16 |
| Implementation of Technology-Based Evaluation of Motivational Interviewing | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.15 |
| Alcohol Use: Nonlinearities in Intraindividual Variables | UNIVERSITY OF SOUTHERN CALIFORNIA | F31 | 2005 | 0.15 |
| Neural Correlates of Emotion Regulation in Youth at Risk for Alcoholism | UNIVERSITY OF COLORADO DENVER | R00 | 2020 | 0.15 |

**Cluster 14:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Extended Methods and Software Development for Health NLP | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2019 | 0.15 |
| Annotation, development and evaluation for clinical information extraction | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2013 | 0.14 |
| Annotation, development and evaluation for clinical information extraction (transfer) | BOSTON CHILDREN'S HOSPITAL | R01 | 2013 | 0.14 |
| A Hybrid General Natural Language Processing Architecture | LOGICAL SEMANTICS, INC. | R43 | 2010 | 0.13 |
| Bio Text NLP | UNIVERSITY OF COLORADO DENVER | R01 | 2018 | 0.11 |

**Cluster 15:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Relationship between Glaucoma and the Three-Dimensional Optic Nerve Head Related Structure | SCHEPENS EYE RESEARCH INSTITUTE | K99 | 2020 | 0.19 |
| Functional and Structural Optical Coherence Tomography for Glaucoma | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2020 | 0.18 |
| Detection of Glaucoma Progression with Macular OCT Imaging | UNIVERSITY OF CALIFORNIA LOS ANGELES | K23 | 2016 | 0.17 |
| New Techniques for Measuring Volumetric Structural Changes in Glaucoma | UNIVERSITY OF MEMPHIS | R00 | 2016 | 0.17 |
| Diagnostic Innovations in Glaucoma: Clinical Electrophysiology | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R21 | 2008 | 0.17 |

**Cluster 16:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Uncovering and Surveilling Financial Deception Risk in Aging | UNIVERSITY OF FLORIDA | R01 | 2020 | 0.14 |
| Uncovering and Surveilling Financial Deception Risk in Aging (Alzheimer's Disease Supplement to 1R01AG057764-01A1) | UNIVERSITY OF FLORIDA | R01 | 2019 | 0.14 |
| Implications of metabolism on healthy aging in African and Caucasian Americans: the Health ABC study | MASSACHUSETTS GENERAL HOSPITAL | R01 | 2020 | 0.12 |
| San Diego Nathan Shock Center | SALK INSTITUTE FOR BIOLOGICAL STUDIES | P30 | 2020 | 0.11 |
| Investigating Sedentary Time In Aging: New Directions Using Technology (iSTAND) | KAISER FOUNDATION HEALTH PLAN OF WASHINGTON | K23 | 2017 | 0.11 |

**Cluster 17:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| High-Throughput Computing for a Multi-Plan Framework in Radiotherapy | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2012 | 0.19 |
| Integration of endoscopic and CT data for radiation therapy treatment planning | UNIV OF NORTH CAROLINA CHAPEL HILL | R01 | 2018 | 0.18 |
| Decision support for dose prescription in radiation treatment planning | UNIVERSITY OF NORTH CAROLINA CHARLOTTE | R21 | 2013 | 0.17 |
| MRI-Based Radiation Therapy Treatment Planning | STANFORD UNIVERSITY | R01 | 2020 | 0.16 |
| Dissemination of a Software Platform for Efficient CT Radiation Dose Optimization and Diagnostic Performance Assessment | MAYO CLINIC ROCHESTER | U24 | 2020 | 0.15 |

**Cluster 18:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Reliable Seizure Prediction Using Physiological Signals and Machine Learning | MAYO CLINIC ROCHESTER | R01 | 2019 | 0.43 |
| Dynamics of long range network interactions in focal epilepsy | COLUMBIA UNIVERSITY HEALTH SCIENCES | R01 | 2020 | 0.39 |
| Algorithm for the Real-Time Detection of Absence Seizures from Oculometric Data | EYSZ, INC. | R43 | 2020 | 0.38 |
| Trainable Early Warning System for Epileptic Seizures | CHATTEN ASSOCIATES, INC. | R44 | 2006 | 0.38 |
| Tracking pre-seizure dynamics to predict and control seizures | STANFORD UNIVERSITY | R01 | 2020 | 0.38 |

**Cluster 19:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Statistical Learning in Language Acquisition | UNIVERSITY OF WISCONSIN-MADISON | R37 | 2019 | 0.11 |
| Statistical approaches to linguistic pattern learning | GEORGETOWN UNIVERSITY | R01 | 2019 | 0.09 |
| Distributional Learning in Children with Language Impairment | UNIVERSITY OF IOWA | F31 | 2017 | 0.082 |
| When cues converge: multiple regularities in language acquisition | UNIVERSITY OF WISCONSIN-MADISON | F31 | 2008 | 0.082 |
| "Mechanisms of Early Bilingual Language Acquisition" | UNIVERSITY OF CALIFORNIA AT DAVIS | R03 | 2017 | 0.079 |

**Cluster 20:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Mapping normal developmental coupling between structural and functional brain networks and abnormalities associated with psychosis | UNIVERSITY OF PENNSYLVANIA | F31 | 2018 | 0.18 |
| Olfactory and facial markers of developmental risk for psychosis in 22q11 deletion syndrome | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.17 |
| Ultra-high field GluCEST MRI and MRS in youth at risk for psychosis | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.17 |
| 2/5 CAPER Computerized assessment of psychosis risk | NORTHWESTERN UNIVERSITY | R01 | 2020 | 0.17 |
| 4/5 CAPER: Computerized assessment of psychosis risk | UNIVERSITY OF GEORGIA | R01 | 2020 | 0.16 |

**Cluster 21:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Quantitative Low-Dose PET Imaging | YALE UNIVERSITY | R01 | 2020 | 0.37 |
| NeuroExplorer: Ultra-high Performance Human Brain PET Imager for Highly-resolved In Vivo Imaging of Neurochemistry | YALE UNIVERSITY | U01 | 2020 | 0.33 |
| Optimization of PET Image Reconstruction for Lesion Detection | MASSACHUSETTS GENERAL HOSPITAL | R03 | 2020 | 0.31 |
| Synergistic integration of deep learning and regularized image reconstruction for positron emission tomography | UNIVERSITY OF CALIFORNIA AT DAVIS | R21 | 2019 | 0.29 |
| Imaging and Dosimetry of Yttrium-90 for Personalized Cancer Treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2018 | 0.28 |

**Cluster 22:**

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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 |
| Exploring the Role of Mitochondrial Fission in Pancreatic Tumorigenesis | UNIVERSITY OF VIRGINIA | R01 | 2017 | 0.17 |
| Molecular Characterization of Parotid Gland Tumors | UNIVERSITY OF CALIFORNIA LOS ANGELES | R56 | 2012 | 0.17 |
| Engineering personalized micro-tumor ecosystems | BRIGHAM AND WOMEN'S HOSPITAL | U01 | 2020 | 0.17 |
| Systems Microscopy Analysis of Tumor Cell Motility in Microenvironment Context | TEMPLE UNIV OF THE COMMONWEALTH | R00 | 2017 | 0.16 |

**Cluster 23:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Tracing the evolution of the human mutation rate | STANFORD UNIVERSITY | F32 | 2017 | 0.27 |
| Computational evaluation of the causal role of somatic mutations in human aging | ALBERT EINSTEIN COLLEGE OF MEDICINE | K99 | 2019 | 0.24 |
| Modeling of Protein Complexes and Missense Mutations | RESEARCH INST OF FOX CHASE CAN CTR | R01 | 2009 | 0.23 |
| Massively parallel functional analyses of human PTEN variants | OREGON HEALTH & SCIENCE UNIVERSITY | F31 | 2019 | 0.23 |
| Molecular impact of mutations in monogenic disease and cancer | UNIV OF MARYLAND, COLLEGE PARK | R01 | 2018 | 0.23 |

**Cluster 24:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Using connectomics to characterize risk for Alzheimer's Disease | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R01 | 2020 | 0.29 |
| Assessing ASL CBF as a biomarker for early Alzheimer's disease detection and disease progression | UNIVERSITY OF MARYLAND BALTIMORE | R01 | 2020 | 0.29 |
| Computational Prediction and Functional Validation of Novel Risk Loci of Alzheimer's Disease | EMORY UNIVERSITY | R56 | 2018 | 0.28 |
| Circadian Organization and Disorder in Alzheimer's Disease | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.28 |
| Novel Approaches to Identifying and Engaging Disadvantaged Patients with Alzheimer’s Disease (AD) in Clinical Research | UNIVERSITY OF WISCONSIN-MADISON | K76 | 2020 | 0.28 |

**Cluster 25:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Perceptual bases of visual concepts | UNIVERSITY OF IOWA | R01 | 2010 | 0.16 |
| Towards cortical visual prosthetics | BOSTON CHILDREN'S HOSPITAL | R21 | 2010 | 0.15 |
| Post-natal development of high-level visual representation in primates | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R21 | 2018 | 0.14 |
| Representation of information across the human visual cortex | UNIVERSITY OF CALIFORNIA BERKELEY | R01 | 2018 | 0.14 |
| The role of area V4 in the perception and recognition of visual objects | UNIVERSITY OF WASHINGTON | R01 | 2018 | 0.14 |

**Cluster 26:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Biobehavioral Studies of Cardiovascular Disease | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | P01 | 2020 | 0.19 |
| Administrative Supplement to Biobehavioral Studies of Cardiovascular Disease | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | P01 | 2020 | 0.19 |
| VARIABLE SELECTION IN GENETIC EPIDEMIOLOGICAL STUDIES OF CARDIOVASCULAR DISEASES | WASHINGTON UNIVERSITY | R01 | 2010 | 0.16 |
| SURPASS: (Statin Use and Risk Prediction of Atherosclerotic Cardiovascular Disease in minority Subgroups) | STANFORD UNIVERSITY | K01 | 2020 | 0.16 |
| Pharmacogenomics of Statin Therapy | CHILDREN'S HOSPITAL & RES CTR AT OAKLAND | P50 | 2019 | 0.14 |

**Cluster 27:**

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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 | 0.32 |
| Perception of dysarthric speech: An objective model of dysarthric speech evaluation with actionable outcomes | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R01 | 2020 | 0.29 |
| A Direct Brain to Speech Generator for use in Humans | NEURAL SIGNALS, INC. | R44 | 2009 | 0.27 |
| Functional Architecture of Speech Motor Cortex | UNIVERSITY OF CALIFORNIA, SAN FRANCISCO | U01 | 2018 | 0.27 |
| Objectively Quantifying Speech Outcomes of Children with Cleft Palate | ARIZONA STATE UNIVERSITY-TEMPE CAMPUS | R21 | 2019 | 0.27 |

**Cluster 28:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Real-time non-intrusive workload monitoring-Integration of human factors in surgery training and assessment | PURDUE UNIVERSITY | R21 | 2020 | 0.18 |
| Intraocular Robotic Interventional Surgical System for Cataract Surgery Project | UNIVERSITY OF CALIFORNIA LOS ANGELES | R21 | 2015 | 0.17 |
| Quantifying the Metrics of Surgical Mastery: An Exploration in Data Science | STANFORD UNIVERSITY | R01 | 2020 | 0.16 |
| A Virtual Coach to Enhance Surgical Training using Human-Centric Modeling and Adaptive Haptic Guidance | UNIVERSITY OF TEXAS, AUSTIN | R01 | 2020 | 0.16 |
| Intelligent Virtual Reality Curriculum for Personalized Surgical Training | OSSO VR, INC. | R43 | 2019 | 0.15 |

**Cluster 29:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Restoring arm and hand motor function with non-invasive spinal stimulation. | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2013 | 0.054 |
| Active Power Exoskeleton Device for Spinal Cord Injury | ABILITECH MEDICAL, INC. | R43 | 2017 | 0.052 |
| A Theranostic Tool to Assess and Enable Spared Spinal Motor Function After SCI | NEUROENABLING TECHNOLOGIES, INC. | R43 | 2014 | 0.044 |
| Wearable-Sensor System for Monitoring Motor Function | BOSTON UNIVERSITY (CHARLES RIVER CAMPUS) | R01 | 2010 | 0.043 |
| Development of a Bidirectional Brain Machine Interface | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2008 | 0.042 |

**Cluster 30:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Prediction and Early Language Development in Young Children with ASD | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2019 | 0.3 |
| Subnetwork-based Quantitative Imaging Biomarkers for Therapy Assessment in Autism | YALE UNIVERSITY | R01 | 2020 | 0.29 |
| Investigating quantitative signatures of autism in toddlers | COLUMBIA UNIVERSITY TEACHERS COLLEGE | R01 | 2020 | 0.28 |
| Clinical algorithm for identifying adult autism | UNIVERSITY OF PENNSYLVANIA | R34 | 2015 | 0.28 |
| Cerebellar connectivity and error-based learning in infants at risk for autism | WASHINGTON UNIVERSITY | F31 | 2020 | 0.27 |

**Cluster 31:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Mining health data for drug safety profiles | STANFORD UNIVERSITY | R01 | 2017 | 0.15 |
| Safety Promotion through Early Event Detection in the Elderly (SPEEDe) | VANDERBILT UNIVERSITY MEDICAL CENTER | R01 | 2020 | 0.14 |
| Transforming Patient Safety Event Data into Actionable Insights through Advanced Analytics | MEDSTAR HEALTH RESEARCH INSTITUTE | R01 | 2020 | 0.12 |
| Collaborative Research: Statistical algorithms for anomaly detection and patterns recognition in patient care and safety event reports | VIRGINIA POLYTECHNIC INST AND ST UNIV | R01 | 2019 | 0.12 |
| Collaborative Research: Statistical algorithms for anomaly detection and patterns recognition in patient care and safety event reports | NORTH CAROLINA STATE UNIVERSITY RALEIGH | R01 | 2020 | 0.12 |

**Cluster 32:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Using Machine Learning to Predict Problematic Prescription Opioid Use and Opioid Overdose | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2019 | 0.19 |
| 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 | 0.17 |
| iTransform: Wearable Biosensors to Detect the Evolution of Opioid Tolerance in Opioid Naïve Individuals | UNIV OF MASSACHUSETTS MED SCH WORCESTER | K23 | 2020 | 0.17 |
| Technology Improving Success of Medication-Assisted Treatment in Primary Care | Q2I, LLC | R42 | 2020 | 0.16 |
| Real-time fMRI neurofeedback of large-scale network dynamics in opioid use disorder | YALE UNIVERSITY | R21 | 2020 | 0.16 |

**Cluster 33:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multifactorial spatiotemporal analyses to evaluate environmental triggers and patient-level clinical characteristics of severe asthma exacerbations in children | DUKE UNIVERSITY | R21 | 2020 | 0.17 |
| Nasal biomarkers of asthma | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2019 | 0.15 |
| Perinatal Origins of Asthma | UNIVERSITY OF ILLINOIS AT CHICAGO | F30 | 2020 | 0.15 |
| Asthma ascertainment and characterization through electronic health records | MAYO CLINIC ROCHESTER | R01 | 2017 | 0.15 |
| Multi-Omics Analysis of the Association of Polyunsaturated Fatty Acids with Asthma and Allergy in Childhood | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.13 |

**Cluster 34:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Neural mechanisms for reducing interference during episodic memory formation | UNIVERSITY OF OREGON | R01 | 2018 | 0.21 |
| The role of memory reactivation in emotional memory suppression and regulation | PRINCETON UNIVERSITY | F99 | 2020 | 0.2 |
| Testing a Model of Competitive Memory Retrieval | PRINCETON UNIVERSITY | F31 | 2006 | 0.18 |
| Using deep brain stimulation of the parietal cortex to investigate the electrophysiology of human episodic memory | UT SOUTHWESTERN MEDICAL CENTER | R01 | 2020 | 0.18 |
| The effects of film music on neural activity in higher-order brain areas and comprehension for the film narrative | PRINCETON UNIVERSITY | F99 | 2020 | 0.18 |

**Cluster 35:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Computational methods for modeling lineage-specific gene regulation | STANFORD UNIVERSITY | R01 | 2016 | 0.13 |
| Genomic Reconstruction of Yeast Transcription Networks | UNIVERSITY OF CALIFORNIA SAN FRANCISCO | R01 | 2006 | 0.11 |
| Integrative analysis tools to dissect cell-type specific transcriptional programs | SLOAN-KETTERING INST CAN RESEARCH | R01 | 2014 | 0.11 |
| Computational approaches for comparative regulatory genomics to decipher long-range gene regulation | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2020 | 0.11 |
| Computational Inference of Regulatory Network Dynamics on Cell Lineages | UNIVERSITY OF WISCONSIN-MADISON | R01 | 2020 | 0.1 |

**Cluster 36:**

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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 | 0.5 |
| Institutional Research Collaboration between the Liverpool School of Tropical Medicine and the Centers for Department of Health and Human Services Centers for Disease Control and Prevention | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2019 | 0.48 |
| Institutional Collaboration Between Liverpool STM & CDC on Malaria | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2009 | 0.47 |
| Towards noninvasive diagnosis of malaria | CHILDREN'S HOSP OF PHILADELPHIA | R21 | 2020 | 0.43 |
| Malaria Operations Research to Improve Malaria Control and Reduce Morbidity and Mortality in Western Kenya | TMLIVERPOOL SCHOOL OF TROPICAL MEDICINE | U01 | 2020 | 0.42 |

**Cluster 37:**

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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 | 0.41 |
| 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 | 0.4 |
| Sleep Health Profiles in Middle-aged Workers in Relation to Cardiovascular and Cognitive Health | UNIVERSITY OF SOUTH FLORIDA | R56 | 2020 | 0.39 |
| The Health and Behavioral Effects of Sleep Deprivation Among the Urban Poor in India | UNIVERSITY OF PENNSYLVANIA | K01 | 2020 | 0.39 |
| Sleep and Cardiometabolic Health Disparities at the US/Mexico Border: The Nogales Cardiometabolic Health and Sleep (NoCHeS) Study | UNIVERSITY OF ARIZONA | R01 | 2020 | 0.39 |

**Cluster 38:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Coding of auditory space in the avian brain | ALBERT EINSTEIN COLLEGE OF MEDICINE | R01 | 2014 | 0.32 |
| Top-down control of auditory processing in the cortico-collicular network | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2019 | 0.3 |
| Top-down control of auditory processing in the cortico-collicular network (Administrative Supplement) | OREGON HEALTH & SCIENCE UNIVERSITY | R01 | 2017 | 0.3 |
| Computational Cognitive Neuroscience of Human Auditory Cortex | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2020 | 0.28 |
| Decoding parametric attributes of auditory working memories from human brain activity | MASSACHUSETTS GENERAL HOSPITAL | R01 | 2020 | 0.23 |

**Cluster 39:**

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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 | 0.27 |
| Computational genome-wide RNA profiling using next-generation sequencing | UNIVERSITY OF PENNSYLVANIA | R01 | 2016 | 0.26 |
| Discovery of Novel RNA Genes in Genomic DNA Sequences | UNIVERSITY OF CALIF-LAWRENC BERKELEY LAB | R01 | 2005 | 0.25 |
| New methods for computational modeling of RNA structures | UNIVERSITY OF MISSOURI-COLUMBIA | R35 | 2020 | 0.24 |
| Defining the messenger RNP code in the brain | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2016 | 0.22 |

**Cluster 40:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| CARDIA Year 35 Brain MRI Renewal | UNIVERSITY OF PENNSYLVANIA | R01 | 2020 | 0.13 |
| Osteoarthritis: Quantitative Evaluation of Whole Joint Disease with MRI | STANFORD UNIVERSITY | R01 | 2020 | 0.13 |
| Low- and Zero-dose Contrast-enhanced MRI Using Deep Learning | SUBTLE MEDICAL, INC. | R44 | 2020 | 0.12 |
| Functional Cardiovascular 4D MRI in Congenital Heart Disease | NORTHWESTERN UNIVERSITY AT CHICAGO | R01 | 2020 | 0.12 |
| Noninvasive imaging-based electrophysiology using microelectronic devices | MASSACHUSETTS INSTITUTE OF TECHNOLOGY | R01 | 2015 | 0.11 |

**Cluster 41:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Identifying Risk Factors for Antibiotic Resistance via Integration of Epidemiology and Metagenomics | UNIVERSITY OF TX MD ANDERSON CAN CTR | K01 | 2020 | 0.12 |
| Integrated Microbial Screening and Antimicrobial Susceptibility Test on Microfluidic Digital Array for Diagnosis of Urinary Tract Infections | COMBINATI, INC. | R41 | 2019 | 0.099 |
| Signature of profiling and staging the progression of TB from infection to disease. | BOSTON UNIVERSITY MEDICAL CAMPUS | R21 | 2020 | 0.098 |
| Systems Biology of Microbiome-mediated Resilience to Antibiotic-resistant Pathogens | SLOAN-KETTERING INST CAN RESEARCH | U01 | 2020 | 0.097 |
| Investigating bacterial contributions to TB treatment response: a focus on in-host pathogen dynamics | HARVARD MEDICAL SCHOOL | R01 | 2020 | 0.092 |

**Cluster 42:**

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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 | 0.33 |
| Sleep apnea after stroke: Implications for screening and treatment | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2019 | 0.31 |
| MEDIC ONE STROKE SCALE | UNIVERSITY OF WASHINGTON | K23 | 2003 | 0.3 |
| Prediction Model for Incident Stroke for Early Screening of an Individual at Risk of Stroke | IHEALTHSCREEN, INC. | R43 | 2018 | 0.3 |
| Fast and Easy Assessment of Stroke | ALVA HEALTH, INC. | R43 | 2019 | 0.3 |

**Cluster 43:**

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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 | 0.31 |
| Developing an artificial intelligence-based mHealth intervention to increase HIV testing in Malaysia | YALE UNIVERSITY | R21 | 2020 | 0.29 |
| Developing an Artificial Intelligence Chatbot to Promote HIV Testing | YALE UNIVERSITY | R21 | 2020 | 0.28 |
| Gene Network Identification and Integration (GNetii) Approach to Understanding the Biology Underlying HIV and Drug Abuse. | RESEARCH TRIANGLE INSTITUTE | R01 | 2020 | 0.27 |
| Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa | STANFORD UNIVERSITY | R01 | 2020 | 0.27 |

**Cluster 44:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Self Correcting Nanoflow LC-MS for Clinical Proteomics | UNIVERSITY OF WASHINGTON | R01 | 2016 | 0.18 |
| Peptide Biomarker Discovery by Mass Spectrometry for Early Detection of Liver Can | GEORGETOWN UNIVERSITY | R21 | 2009 | 0.16 |
| Optimization and joint modeling for peptide detection by tandem mass spectrometry | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.16 |
| Machine learning analysis of tandem mass spectra | UNIVERSITY OF WASHINGTON | R01 | 2014 | 0.15 |
| Skyline Targeted Proteomics Environment | UNIVERSITY OF WASHINGTON | R01 | 2020 | 0.15 |

**Cluster 45:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| MBRS IMSD Program at the University of Kansas | UNIVERSITY OF KANSAS LAWRENCE | R25 | 2008 | 0.0068 |
| COINSTAC: decentralized, scalable analysis of loosely coupled data | THE MIND RESEARCH NETWORK | R01 | 2018 | 0.0055 |
| COINSTAC: Decentralized, Scalable Analysis of Loosely Coupled Data | GEORGIA STATE UNIVERSITY | R01 | 2019 | 0.0049 |
| Building a classroom game economy to improve mathematical reasoning and prepare K-5 students for success in STEM learning | TEACHLEY, LLC | R44 | 2020 | 0.0034 |
| MUSC Minority Student Development Program | MEDICAL UNIVERSITY OF SOUTH CAROLINA | R25 | 2008 | 0.0033 |

**Cluster 46:**

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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 | 0.069 |
| Big Data Coursework for Computational Medicine | WEILL MEDICAL COLL OF CORNELL UNIV | R25 | 2016 | 0.068 |
| Transforming Analytical Learning in the Era of Big Data | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R25 | 2020 | 0.067 |
| Fisk University/UIUC-Mayo KnowENG BD2K Center R25 Partnership | FISK UNIVERSITY | R25 | 2019 | 0.061 |
| Summer Institute for Statistics of Big Data | UNIVERSITY OF WASHINGTON | R25 | 2016 | 0.058 |

**Cluster 47:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Advanced Heart Failure: Epidemiology and Outcomes | MAYO CLINIC ROCHESTER | R01 | 2020 | 0.16 |
| CorBand: A novel wearable wrist sensor for heart failure remote monitoring | RETHINK MEDICAL, INC. | R44 | 2017 | 0.15 |
| Transition from Risk Factors to Early HF: Prevalence, Pathogenesis, and Phenomics | WAKE FOREST UNIVERSITY HEALTH SCIENCES | R01 | 2018 | 0.14 |
| Charting a New Course for Heart Failure: From Discovery to Data | KEYSTONE SYMPOSIA | R13 | 2020 | 0.13 |
| Health Information Technology in Heart Failure Care | NEW YORK UNIVERSITY SCHOOL OF MEDICINE | K08 | 2017 | 0.13 |

**Cluster 48:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Decision Processes of Late-Life Suicide | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2018 | 0.45 |
| Predicting Self-Harm, Suicide Attempt, and Suicidal Death using Longitudinal EHR, Claims and Mortality Data | WEILL MEDICAL COLL OF CORNELL UNIV | R01 | 2020 | 0.44 |
| Digital Monitoring of Agitation for Short-Term Suicide Risk Prediction | MASSACHUSETTS GENERAL HOSPITAL | K23 | 2020 | 0.43 |
| Statistical Methods for Predicting Suicide Attempt | COLUMBIA UNIVERSITY HEALTH SCIENCES | K25 | 2009 | 0.4 |
| Multimodal Assessment of Near-term Risk Processes for Suicide Ideation and Behavior | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | R01 | 2020 | 0.4 |

**Cluster 49:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Spectrum of and Nutritional Risk Factors for FASD in Russia and Ukraine | UNIVERSITY OF CALIFORNIA, SAN DIEGO | U01 | 2011 | 0.27 |
| MAGNETIC RESONANCE AND DIFFUSION TENSOR IMAGING OF A MOUSE FASD MODEL U01 | UNIV OF NORTH CAROLINA CHAPEL HILL | U01 | 2010 | 0.25 |
| Applying Machine Learning in the Prediction and Identification of Children Affected by Prenatal Alcohol Exposure | UNIVERSITY OF CALIFORNIA, SAN DIEGO | K01 | 2020 | 0.24 |
| Mapping the Brain, the Face and Neurocognitive Function in FASD (U01) | CHILDREN'S HOSPITAL OF LOS ANGELES | U01 | 2011 | 0.24 |
| Administrative Core of the CIFASD | SAN DIEGO STATE UNIVERSITY | U24 | 2020 | 0.23 |

**Cluster 50:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Comprehensive analysis of human adaptive immune receptors to elucidate correlates of Epstein-Barr virus disease suppression | UNIVERSITY OF KANSAS LAWRENCE | DP5 | 2020 | 0.17 |
| Machine Learning for Integrative Modeling of the Immune System in Clinical Settings | STANFORD UNIVERSITY | R35 | 2020 | 0.16 |
| Blending deep learning with probabilistic mechanistic models to predict and understand the evolution and function of adaptive immune receptors | FRED HUTCHINSON CANCER RESEARCH CENTER | R01 | 2020 | 0.15 |
| Antigen Structure-Based Supervised Learning for CD4+ T-cell Epitope Prediction | TULANE UNIVERSITY OF LOUISIANA | R21 | 2017 | 0.15 |
| Systems-level identification of key regulators deciding immune cell state | UNIVERSITY OF CALIFORNIA, SAN DIEGO | R01 | 2020 | 0.14 |

**Cluster 51:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Mobile Food Intake Visualization and Voice Recognize (FIVR) | VIOCARE, INC. | U01 | 2010 | 0.19 |
| Devaluing Energy-Dense Foods for Cancer Control: Translational Neuroscience | UNIVERSITY OF OREGON | R01 | 2020 | 0.18 |
| Role of Inflammatory Processes in Reward Network Alterations in Obesity | UNIVERSITY OF CALIFORNIA LOS ANGELES | K23 | 2020 | 0.16 |
| AC/DC: Artificial intelligence and Computer visioning to assess Dietary Composition | TUFTS UNIVERSITY BOSTON | R21 | 2020 | 0.16 |
| Obesity Prevention in Early Life (OPEL): Risk Screening and Targeted Intervention | INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS | K01 | 2020 | 0.14 |

**Cluster 52:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multi-omic Subtyping of Chronic Obstructive Pulmonary Disease | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2020 | 0.13 |
| Autoimmunity as a Mechanism for Atherosclerosis in COPD | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | K23 | 2019 | 0.12 |
| Predictive Modeling with Clinical and Genomic Data in COPD | BRIGHAM AND WOMEN'S HOSPITAL | K08 | 2014 | 0.12 |
| Identifying palliative care needs among hospitalized patients with chronic obstructive pulmonary disease | UNIVERSITY OF PENNSYLVANIA | K23 | 2020 | 0.11 |
| Systems Level Causal Discovery in Heterogeneous TOPMed Data | UNIVERSITY OF PITTSBURGH AT PITTSBURGH | U01 | 2019 | 0.11 |

**Cluster 53:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Multi-Parametric Spatial Assessment of Bone with HR-pQCT | UNIVERSITY OF COLORADO DENVER | R01 | 2020 | 0.24 |
| Computerized Radiographic Analysis of Bone Structure | UNIVERSITY OF CHICAGO | R01 | 2005 | 0.24 |
| OSTEOPOROSIS IN HYPERCALCURIC KIDNEY STONE FORMERS | LITHOLINK CORPORATION | R43 | 2001 | 0.17 |
| Osteoporosis in Hypercalciuric Kidney Stone Formers | LITHOLINK CORPORATION | R44 | 2003 | 0.17 |
| BMP6 Induction of Human Mesenchymal Stem Cell Osteoblast Differentiation | UNIVERSITY OF PENNSYLVANIA | R01 | 2010 | 0.15 |

**Cluster 54:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Identification of epigenetic subclones in lymphomas and leukemias | WASHINGTON UNIVERSITY | F30 | 2020 | 0.28 |
| MODELING DNA METHYLATION'S ROLE IN GENE REGULATION | WASHINGTON UNIVERSITY | R01 | 2018 | 0.26 |
| Signals of Epigenetic Modification in Sjogrens Syndrome | UNIVERSITY OF CALIFORNIA BERKELEY | F31 | 2018 | 0.26 |
| Defining Genomic Signatures for Aberrant DNA Methylation in Human Cancers | EMORY UNIVERSITY | R01 | 2013 | 0.25 |
| Statistical Models in Epigenomics | UNIVERSITY OF SOUTHERN CALIFORNIA | R01 | 2005 | 0.23 |

**Cluster 55:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Analysis of the Functional Impact of Coding region SNPs | UNIV OF MARYLAND, COLLEGE PARK | R01 | 2010 | 0.12 |
| Genome-Wide Association Analysis of Bladder Cancer | UNIVERSITY OF TX MD ANDERSON CAN CTR | U01 | 2012 | 0.11 |
| Machine learning to identify predictive SNPs and complex interaction effects | VIRGINIA POLYTECHNIC INST AND ST UNIV | R21 | 2010 | 0.093 |
| Molecular Genetics of HNPCC | UNIVERSITY OF TX MD ANDERSON CAN CTR | R01 | 2011 | 0.088 |
| Machine Learning Prediction of Cancer Susceptibility | UNIVERSITY OF PENNSYLVANIA | R01 | 2014 | 0.084 |

**Cluster 56:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Digital Mammography: Advanced Computer-Aided Breast Can\* | UNIVERSITY OF MICHIGAN | R01 | 2007 | 0.16 |
| Improving Melanoma Pathology Accuracy through Computer Vision Techniques - the IMPACT Study | UNIVERSITY OF CALIFORNIA LOS ANGELES | R01 | 2020 | 0.13 |
| Computer-Aided Detection of Urinary Tract Cancer on MDCT Urography | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R01 | 2014 | 0.13 |
| Toward Diagnostics and Therapies of Molecular Subcategories of CAD | ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI | R01 | 2018 | 0.13 |
| DEVELOPMENT OF COMPUTER BASED TECHNIQUES IN MAMMOGRAPHY | UNIVERSITY OF MICHIGAN | R01 | 2000 | 0.11 |

**Cluster 57:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| MRI Imaging and Biomarkers for Early Detection of Aggressive Prostate Cancer | UNIVERSITY OF MIAMI SCHOOL OF MEDICINE | U01 | 2020 | 0.34 |
| Gene-Gene Interactions and Their Functional Roles in Prostate Cancer Aggressiveness | LSU HEALTH SCIENCES CENTER | R21 | 2017 | 0.34 |
| Urinary biomarkers for prostate cancer diagnosis and risk assessment | UNIVERSITY OF TEXAS EL PASO | SC1 | 2020 | 0.32 |
| Genetic & epigenetic analysis of angiogenesis genes in recurrent prostate cancer | H. LEE MOFFITT CANCER CTR & RES INST | R01 | 2012 | 0.31 |
| CLINICAL AND EPIDEMIOLOGICAL CENTER--PROSTATE CANCER | JOHNS HOPKINS UNIVERSITY | U01 | 2004 | 0.31 |

**Cluster 58:**

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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 | 0.18 |
| BIGDATA: Small DA Social Behavior Driven Modeling and Optimization of Information | GEORGIA INSTITUTE OF TECHNOLOGY | R01 | 2015 | 0.16 |
| The Molecular Underpinnings of Complex Social Behavior | ROCKEFELLER UNIVERSITY | R35 | 2020 | 0.16 |
| Characterization of Misinformation Dynamics in COVID-19 related health information in online social media | UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON | R01 | 2020 | 0.15 |
| Moving beyond description: Statistical and casual inference for social media data | UNIVERSITY OF ROCHESTER | R01 | 2015 | 0.15 |

**Cluster 59:**

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| --- | --- | --- | --- | --- |
| Title | Awardee | Award Activity | Year | Sample Silhouette Score |
| Improving Modeling by Learning from Details of High Accuracy Protein Structures | OREGON STATE UNIVERSITY | R01 | 2015 | 0.19 |
| Integrated Prediction of Protein Struture at 1D, 2D and 3D Levels | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2013 | 0.18 |
| Integrated Prediction and Validation of Protein Structures | UNIVERSITY OF MISSOURI-COLUMBIA | R01 | 2018 | 0.18 |
| New Computational Methods for Data-driven Protein Structure Prediction | TOYOTA TECHNOLOGICAL INSTITUTE / CHICAGO | R01 | 2020 | 0.17 |
| Advanced approaches to protein structure prediction | UNIVERSITY OF MICHIGAN AT ANN ARBOR | R35 | 2020 | 0.17 |