YING (JULIA) JI

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EDUCATION

Vanderbilt University, Nashville, TN   Aug 2015 - Present
   Ph.D. in Human Genetics   GPA: 3.77
   M.S. in Biostatistics   GPA:3.84
   Coursework: Advanced Statistical Computing; Applied Survival Analysis; Modern Regression Analysis; Contemporary Statistical Inference; Fundamentals of Probability; High Performance Computing

Tsinghua University, Beijing, China   Sep 2011 - Jul 2015
   B.S. in Biological Science

EXPERIENCE

Graduate Research Assistant   May 2017 - Present
Vanderbilt University, Nashville, TN

Prioritization of Schizophrenia risk genes using machine learning approaches

- Collected and organized heterogeneous, high-dimensional gene expression datasets from various public databases and platforms

- Constructed gene level feature matrix by combing various datasets through data-contatenation, transformation and dimension reduction using R

- Built machine learning models including logistic regression, SVM, random forest to prioritize risk gene from constructed features using skicit-learn (Python), randomForest, e1071, Caret (R)

- Identified novel candidate genes according to the cumulative weight of biological evidence, informed more targeted downstream functional analyses

Predict patient-level genetic risk for breast cancer in East Asian populations

- Developed a novel weight adapted meta-analysis approach to improve effect size estimation in East Asian population through combining summary statistics from diverse populations

- Significantly increased prediction auROC from 0.56 to 0.62 in East Asian population (Pvalue=3.6e-5), reduced the gap in risk prediction accuracy between European and non-European populations

SKILLS

Languages: R, Python, SQL, C	**Data science toolkits:** R, Numpy, Scipy, Scikit-learn
Tools: Unix/Linux, Git, SLURM	**Data visualization:** ggplot, matplotlib, Tableau

OTHERS

   Award: Graduate Leadership Development Institute (GLDI) travel award   May 2019
   Presentation: American Society of Human Genetics Oral Presentation (Abstract scored in top 8% among more than 3000 participants)   Oct 2018
   Activity: Secretary of Human Genetics Graduate Student Association   Aug 2017 - Jul 2018
   Teaching: Mentored graduate rotation student perform analysis using UNIX and R   Jan - Feb 2019