

Virtual Research Assistant (ViRA)

Team: Xiyuan Cui (CS), Patrick DeVries(CS), Jiasheng Fang(CpE), Nathan Srirama(CS)



Development Team



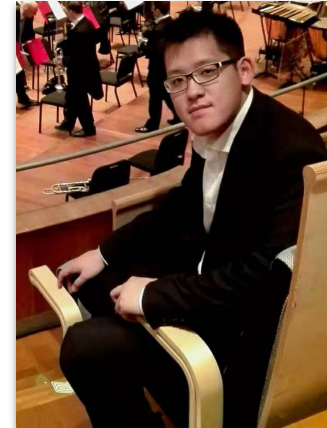
Nathan Srirama
Backend Developer
B.S. Computer Science



Patrick DeVries
Backend Developer
B.S. Computer Science



Jiasheng Fang
Frontend Developer
B.S. Computer Engineering



Xiyuan Cui
Frontend Developer
B.A. Computer Science
B.S Mathematics
B.S Statistics



Virtual Research Assistant (ViRA)



Purpose

The project is a web app for browsing research documents and authors and receiving recommendations.

- Search papers and researchers by typing or with speech-to-text
- Like or dislike papers and researchers
- Paper and researcher recommendations by ViRA
- Improve the experience of exploring research by putting the most relevant papers in front of the user



Sponsor Profile

Jia Zhang, Ph.D.

- Cruse C. and Marjorie F. Calahan Centennial Chair in Engineering,
- Professor of Department of Computer Science at SMU

Her research interests emphasize the application of machine learning and information retrieval methods to tackle data science infrastructure problems



Virtual Research Assistant (ViRA)

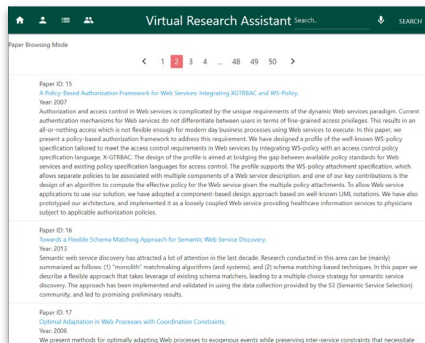


Document Parser

The crux of this application is the collection of research papers which fill our repository of data for users to interact with. Papers must be parsed in order to extract useful information and insert them into the database.

Papers are gathered from two sources:

- Dr. Zhang provided two XML files including paper information.
- The Aminer API, which can be queried from our application using an Admin account to get any number of papers that match certain queries.



Technology Stack

Play Framework

Both the front-end & back-end were developed using the Play Framework. It includes:

- Scala/HTML for front-end page generation
- Materialize CSS framework for front-end page styling
- NoSQL database standards with Ebean logic integration
- Google Cloud API for text-to-speech & speech-to-text capabilities
- Aminer API for paper acquisition
- Mallet jar for LDA Topic Modeling

All programming logic is written in Java and utilizes the Play Framework to assemble the included bullet points.

