

Xuan Lu

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EDUCATION

M.S.	Computer Science (GPA: 3.82 / 4.0)	Iowa State University, USA	Dec 2018
Ph.D.	Plant Biology	Iowa State University, USA	Dec 2015
B.S.	Biological Sciences	Shanghai Normal University, China	Jun 2010

COURSES/ SKILLS

- **Courses:** Programming Languages (Java), Data Structure, Algorithms, OOD, Operating System, Networking Architecture and Programming, Cloud Computing, Mobile Development and AI
- **Languages:** Java, C, HTML, CSS, JavaScript, PHP, Python, Go, JSON/XML, SQL and Objective C
- **Tools:** Apache Tomcat, MySQL, MongoDB, Amazon EC2, Google Cloud, BigTable, BigQuery, DataFlow, Junit, JMeter, Git, Gradle, RESTful, AJAX, LogStash, Elastic Search, Kibana, Android Studio, XCode, Eclipse, IntelliJ

PROJECTS

Ticketpedia: Web Service Development – Event Search and Ticket Recommendation

- Designed an interactive web application to search nearby events, save events of interest and recommend events
- Built backend Java servlets with **RESTful** APIs based on **Tomcat** server
- Used frontend technology (**HTML, CSS and JavaScript**) to connect with backend Java servlets
- Created relational database (**MySQL**) to store event data from TicketMaster API and user's favorite events and non-relational databases(**MongoDB**) for user growth
- Implemented event and Geo-location based algorithm to recommend events nearby
- Deployed server to **Amazon EC2** for scaling up and handled 200 qps tested by **JMeter**

Analysis of User Behavior

- Utilized **ELK (Elastic Search, LogStash, Kibana)** to target users who visit Ticketpedia deployed in EC2 on the basis of user's location and query time
- Used **Kibana** to visualize the geographic distribution and query time from the users
- Applied **MapReduce** in MongoDB to process logs from web servers to find query peak periods

XuanNetwork: Location Based Social Network iOS App

- Developed an iOS app for users to search and post events around (e.g. 200km) and filtered the spam messages
- Built the back-end service in **Go** to handle post and search messages
- Deployed the server to **Google Cloud** (GAE flex) for scaling up
- Utilized **ElasticSearch** (GCE) to provide geo-location based search for nearby posts within a distance
- Stored user's data in **BigTable** and deployed **Google Dataflow** to implement a daily dump of posts to **BigQuery** for offline analysis to implement keyword spam filter

CyTower Defense: Interactive Tower Defense Android Game

- Designed Group Project **Android** version of Tower Defense Game for two players to play the game in real-time split-screen mode
- Built Java **Socket Programming** for two players to exchange data (coordinates in map screen) and established database (**MySQL**) to store user's data handled by PHP in backend
- Worked on the Android UI layout of the map and implemented data flow transmission between activities in different UI layouts by JSON
- Won as the **Best Team Manager** and our group project nominated as **Best Project** in class