

JONATHAN XUE

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EDUCATION

- May 2021 **Bachelor of Science, Computer Science** – University of Illinois at Urbana-Champaign
Bachelor of Science, Psychology – University of Illinois at Urbana-Champaign
- Dual Degree, GPA: 3.98
- May 2022 **Master of Computer Science** – University of Illinois at Urbana-Champaign

EXPERIENCE

- 06/2020-08/2020 **Amazon** – Software Engineer Intern
- Developed an analytics tool analyzing AWS Lifecycle metrics from data logs with the Elastic Stack. Sample use cases include identifying the customers driving growth for a given workflow and generating aggregate statistics for each workflow for a given customer.
 - Deployed the tool to multiple AWS regions and extended support for additional data sources.
- 06/2019-08/2019 **Capital One** – Software Engineer Intern
- Developed a web application to organize data labeling for machine learning solutions using React.js + Redux with a Python Flask server and PostgreSQL database. Datasets are uploaded, annotated, and exported in both raw (JSON) and parsed (CSV, TSV, CoNLL) formats for different training models.
 - Designed and implemented a separate text annotation module optimized for performance and stability.
- 11/2018-05/2019 **CME Group** – Robotic Process Automation Intern
- Architected digital worker to automate employee termination/resignation processes. Tasks include disabling the employee account from the Active Directory, terminating VPN/Remote-Desktop access, disabling access to remote web tools and business applications, and removing the account from email and distribution lists.
 - Parsed emails to retrieve necessary employee identification information with C# .NET
- 09/2018-12/2018 **University of Illinois at Urbana Champaign** – Research Assistant
- Developed two separate Maven plugins to analyze and accommodate test dependencies in regression testing algorithms, namely test prioritization, test parallelization, and test selection. Helps developers locate and verify false positives/negatives.
 - Work is 7.1% faster at producing reliable outcomes than regression testing algorithms which assume test independence.

SELECTED PROJECTS

CourseAssign

<https://jonathanxue.com/CourseAssign>

- Developed a web application that analyzes teaching assignment and grade distribution data of past Computer Science courses at UIUC and their faculty instructors to determine best-fit matches between courses and faculty.
- Calculated semantic similarity between a course's description and an instructor's research interests with spaCy by comparing multi-dimensional meaning representations of keywords

Stud-Vision

https://devpost.com/software/stud_vision

- Developed a mobile application that enhances student learning by parsing textual/visual content and providing corresponding information (3D models, links) on relevant concepts.
- Generated 3D chemical models of elements/compounds with Blender Python and synced the corresponding models to physical textbook pages in augmented reality with Vuforia.
- Parsed textual images with ML Kit for Firebase and extracted keywords with RAKE natural language processing algorithm

RELEVANT COURSEWORK

Data Structures	Computer Architecture	System Programming
Numerical Methods	Probability & Statistics	Algorithms & Models of Computation
Database Systems	Programming Languages & Compilers	Artificial Intelligence
Natural Language Processing	User Interface Design	Art of Web Programming

SKILLS

Languages: C, C++, HTML/CSS, Java, JavaScript, Python, R

Database and Client/Server Technologies: Express, Flask, MongoDB, Node.js, SQL