

# JONATHAN XUE

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## EDUCATION

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- Fall 2018-Present    **University Of Illinois At Urbana-Champaign, Computer Science**, Urbana-Champaign, IL
- Pursuing a Bachelor Of Science In Computer Science
  - James Scholar, Campus Honors Program

## PROFESSIONAL/RESEARCH EXPERIENCE

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- 06/2018-Present    **Volunteer, FreeGeek Chicago**, Chicago, IL
- Deconstruct electronic devices into its core materials for waste recycling.
  - Unit test hardware components (RAM, hard drives, graphics cards, etc.) to ensure functionality.
  - Build Linux-based systems out of donated and recycled parts.
- 06/2017-08/2017    **Research Intern, McCormick School Of Engineering, Northwestern University**, Evanston, IL
- Ran computer simulations to study the effect of nanoconfinement on the structural and transport properties of H<sub>2</sub>O.
  - Wrote Python scripts to generate LAMMPS data files detailing the molecular composition/bonds of H<sub>2</sub>O and Carbon Nanotubes.
  - Used Python, Tcl, and C++ to sanitize data and complete data analysis.

## SELECTED PROJECTS

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- Autumn 2017    **Watchdog**
- Facial recognition platform for classrooms built using Microsoft Cognitive Service.
  - Automates attendance and offers teachers live, in-depth analytics on the current state of a classroom by collecting continuous data on student emotions.
  - Lists the IDs of students with the highest engagement scores, which is calculated through a combination of their attentiveness and positive emotions.
- Summer 2017    **Caveat**
- Chicago crime data is retrieved from the Chicago Data Portal and stored in MongoDB. Crimes are classified under standard categories (assault, theft, etc.) and are respectively assigned a weight.
  - Node.js Express Server sends data to clients of a list of crimes within a certain radius. Analytics are then calculated and displayed through: a heat map of crime intensity/severity, a pi-chart detailing the occurrence rates of various crime categories, and a graph showing crime rates over time.
- Spring 2017    **Exterminat0r**
- A first-person shooter virtual reality game. Consists of two gamemodes: arcade and survival. In arcade mode, the user has sixty seconds to shoot as many static blocks as possible. In survival mode, the user is placed in a custom map against infinite waves of enemy spawns. Motions are controlled via an X-Box Controller.

## LEADERSHIP, PROFESSIONAL ACTIVITIES AND AWARDS

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- CodeDay Chicago 2017: Best Application, Best Overall
  - Hackridge 2017: 3<sup>rd</sup> Place, American Eagle's Choice, Best Domain Name
  - Code For The Kingdom – Chicago 2017: Best Pre-Existing Project
  - MHacks X: Qualtrics Best Use Of Data Visualization
  - Huskie Hacks – Health & Wellness 2017: Green Livin'
  - Revolution UC VII: Best High School Hack
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- CodeDay Chicago 2018: Mentor
  - Illinois Junior Academy Of Science: State Student Executive Board

## COMPUTER SKILLS

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**Languages:** C, C++, HTML/CSS, Java, Javascript, Python, Tcl

**Database and Client/Server Technologies:** AWS, Firebase, Google Cloud, MongoDB, Node.js

**Integrated Development Environments:** Android Studio, Arduino, Atom, Cloud9, Eclipse, PyCharm, Visual Studio

**Software:** Adobe Illustrator, Adobe Photoshop, Autodesk Inventor, Autodesk Maya. Microsoft Excel