

# Claire Chen

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## EDUCATION

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### University of Illinois, Urbana Champaign

Mathematics and Computer Science, B.S.

Expected Graduation: May 2026

Grade: 4.0/4.0

\* currently taking course

**Relevant Coursework:** Programming with Java · Programming with Rust and C++\* · Discrete Structures\* · Matrix Theory · Fundamental Mathematics\* · Applied Complex Variables\*

**Planned Coursework:** Data Structures · Computer Architecture · Systems Programming

## EXPERIENCE

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### UC Santa Barbara Vision Research Lab *Computer Vision Research Engineer*

Jun 2023 - Aug 2023

- Conducted biomedical image analysis of distinguishing viral pneumonia COVID-19 from other forms of viral pneumonia through deep learning multi-class image classification.
- Produced novel two layer stacked ensemble method incorporating transfer learning, hyperparameter tuning, image preprocessing, and ensemble learning
- Automated COVID-pneumonia diagnosis achieved 21.37% improved accuracy to baseline ResNet50.
- Presented in bi-weekly meetings; presented research at UCSB poster session and Research Symposium.

### Lynbrook Mobile App *Lead Developer, Associated Student Body Commissioner*

Apr 2022 - Aug 2023

- Led the development team of Lynbrook High School's mobile app and integrated school, student organization, faculty, school board, and sports events onto the app.
- Liaised between student body, faculty, school board, and development team; Surveyed for feedback and handled requests from all clients to keep app prevalent to the student body.
- Worked with **React Native** and **TypeScript**, led team of 5 developers, and trained 3 underclassmen.
- App aids 40 school-wide events, assists 20+ clubs, and serves 1.9k students, teachers, and parents.

### Lynbrook High School *Program Mechanic*

Aug 2021 - Jun 2022

- Worked for English teacher and programmed **Python** scripts to help track student assignments.
- Created user-friendly website using **FireBase**, working both frontend and backend to help teacher count student Google Doc comments, detect late work in Google Docs, and track Schoology discussion posts.
- Created online chat for classroom bonding using **Firebase** and developed website's UI/UX design using **JavaScript** and **HTML/CSS**.

## PROJECTS

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### Gradient Boosting on Identifying Age-Related Conditions *Python · TensorFlow*

- Worked for the InVitro Cell Research Company and analyzed a dataset of over fifty anonymized health characteristics linked to three age-related conditions.
- Trained a ML model to predict patients' conditions given their health characteristics using Gradient Boosting (CatBoost, LightBoost, XGBM).
- Handled challenges of an unbalanced and limited dataset and referenced strategies from cutting-edge research papers and conferences.

### ChicksOut App *Java · C++ · GUI*

- Developed an Android puzzle game in Android Studio Code similar to the "Lights Out" puzzle.
- Programmed ChicksOut game and UI in Java, and coded a followup puzzle solver in C++.

## TECHNICAL SKILLS

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**Languages:** Python · Java · C++ · JavaScript · TypeScript · HTML/CSS · Rust

**Web Frameworks and Developer Tools:** React Native · Docker ·  $\LaTeX$  · Typst · Linux · Git · GitHub Actions

**Other Technologies:** NumPy · PyTorch · TensorFlow · Microsoft Excel