

# Chris Xu

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## EDUCATION & HONORS

University of Illinois Urbana-Champaign, Grainger College of Engineering

Expected May. 2028

Bachelor of Science in Computer Engineering

GPA: 3.96/4.0

### Honors & Awards

- **1st Place - CI MED Make-A-Thon:** 1st place out of 8 teams, helped to create nerve detecting cauterizer
- **James Scholar:** Selected for a competitive honors program completing advanced academic projects
- **SP' 2025 Dean's List:** Recognized for academic excellence by achieving a higher GPA than 80% of cohort
- **SP' 2025 Cozad New Venture:** Commitment to Entrepreneurship Award

### New Trier High School

Aug. 2020 - May 2024

Honor Roll, AP Scholar with Distinction, National Merit Scholarship Semi-Finalist, Eagle Scout, Debate Club

GPA: 5.0 | ACT: 35

## PROFESSIONAL WORK EXPERIENCE

### Development Operations Engineer

May. 2025-Present

Power Electronics International

East Dundee, IL

- PE Website:
  - Led full-stack development of company website improving SEO, increasing turnover rate, and reducing load times
  - Programmed unique ChatGPT Agent to act as a user chatbot to aid in customer questions
  - Programmed in Vue/Vuetify/Nuxt3 frontend with a NodeJS + Express backend with CI/CD pipeline on Azure
- ECT (Engineering Change Tool):
  - Helped on optimized backend architecture, enabling scalable processing of BOM data in PostgreSQL
  - Automated deployment and development with Microsoft Azure
- Easy-Acumatica Python Package
  - Developed an open source python package to interface with the Acumatica REST API
  - Assisting development in an agentic interface that integrates with Acumatica and Easy-Acumatica

### New Trier High School IT Department

Jun. 2024 - Aug. 2024

Summer Intern

Winnetka, IL

- Collaborated with the entire New Trier High School IT Department to refresh devices & apply network wide updates
- Attained experience in PXE booting, PowerShell scripting, & network administration

### Math Tutor

Sept. 2021 - May 2024

Various Levels: Mathnasium, New Trier Academic Assistance Center

Winnetka & Kenilworth, IL

- Academic Assistance Center: Selected by faculty as a math tutor based on academic achievement. 300+ taught & assisted.
- Mathnasium: Developed elementary to high school students' skills in mathematics, logic, & problem solving

## RESEARCH & PROJECTS

### Tanda Biotech Computer Vision System

Aug. 2025 - Present

- Currently working with startup Tanda Biotech on a computer visioning system for biochemical manufacturing
- Designed proprietary system for image preprocessing and detection with OpenCV2 to read dials and flasks.

### Meme Coin Price Prediction Model

May. 2025 - Present

- Using various APIs and Tensorflow, developed a model to predict the price of a meme coin based upon social media buzz
- Used the NLTK "Vader" model for NLP to determine how positive or negative a social media post is.

### Personal Portfolio Website

Apr. 2025 - Present

- Created own personal website to house personal and resume information
- Programmed with React frontend with a nodejs backend, hosted on Vercel.

### DNA Splicer (CS128)

Jan. 2025 - May 2025

- Implemented a custom singly linked list with RAII memory management to simulate DNA sequence splicing.
- Optimized pointer operations for efficient manipulation of large nucleotide data.
- Created a DNA profile matching tool using hash maps and optimized string algorithms to identify suspects from genetic databases in linear time.

### Image Seam Carver (CS128)

Jan. 2025 - May 2025

- Implemented a seam carving algorithm in C++ to reduce image dimensions by removing low-energy seams while preserving key visual content
- Optimized algorithm efficiency through dynamic programming, achieving smooth image resizing with minimal distortion.

### Mountain Path Generator (CS128)

Jan. 2025 - May 2025

- Developed a least-resistance pathfinding algorithm using topological elevation data to compute optimal routes across terrain.
- Implemented tie-breaking heuristics and visualized results with a generated heatmap for intuitive analysis.

#### **RSO App Tracker (CS124)**

**Nov. 2024 - Dec. 2024**

- Created Java application to connect students with interested RSOs
- Utilized android studio to implement features like favoriting, sorting, filtering, etc.

#### **DNA Bendability Model**

**Jun. 2023 - Sept. 2023**

*Research Assistant | Professor Wang (Department Chair: Professor of Statistics and Data Science) Research Group*

*Evanston, IL*

- Created a TensorFlow model to predict the bendability of a segment of DNA given a specific DNA K-mer length.
- Achieved an R-Value close to 0.9 using the TensorFlow package.

#### **STEM Education Policy Review**

**Jun. 2023 - Sept. 2023**

*Main Researcher | Mentor: Ronald Omuthe*

*Remote | Cambridge, United Kingdom*

- Conducted a literature review of STEM education policy & its impact on DEI in STEM education. Accepted to NHSJS

### **LEADERSHIP & INVOLVEMENT**

#### **Illinois Medical Advancements through Design & Engineering (i-MADE)**

**Sept. 2024 - Present**

*Software Engineer | Stealth Project*

*Champaign, IL*

- Stealth Project: Worked with on campus startup, Stealth, to create a ML model. Presented at Cozad & URS
- Utilized the SciPy package & NumPy to train an SVM model to determine muscle fatigue & optimal training intervals.

*CAD Engineer | Sandman Project*

- Collaborated with an interdisciplinary team to create an at home hospital bed with voice command capabilities.
- Designed & simulated using Fusion360 & Inventor with the Gensim package for NLP

#### **Biomedical Engineering Society (BMES)**

**Sept. 2024 - Present**

*Engineer*

*Champaign, IL*

- Electronic Shoulder Project: Currently developing an electronic shoulder exhibited at Engineering Open House.
- Sole developer of the CAD & physical model whilst assisting in the electronic circuit & Arduino code

#### **First Tech Challenge Robotics: Team 11392**

**March 2020 - May 2024**

*Captain & Various Roles*

*Naperville, IL*

- Led a team of 10 students in constructing & coding a fully functional robot specializing in various tasks
- Programmed in Java for core functionalities, OpenCV for image analysis, with OnShape & Fusion360 used for design

### **SKILLS & RELEVANT COURSEWORK**

- **Technical Skills:** C++, Python, TypeScript, Java, JavaScript, Microsoft Azure, REST APIs, CI/CD Pipelines, CAD, API Development, Verilog, HTML, CSS, PostgreSQL, Circuit Development
- **Tools/Frameworks:** Tensorflow, Keras, PyTorch, Pandas, NumPy, Node, Express, Vue, Vuetify, React, Next,
- **Interpersonal Skills:** Collaboration, Teamwork, Team Management, Spanish (Fluent), Chinese (Working Proficiency)
- **Relevant Courses (by May 2026):** Computing Systems, C++, Data Structures and Algorithms, Linear Algebra, FPGAs
- **Interests:**