Jacob Yen

San Francisco, CA | jyen6432@gmail.com | (628) 225-8368 | linkedin.com/in/jacob-yen | github.com/KooptaTroopta

EDUCATION

Boston University College of Engineering, Boston, MA *May 2028*
Bachelor of Science in Computer Engineering | GPA: 4.00
Honors & Activities: Dean's List, Society of Asian Scientists and Engineers, Intramural Basketball, TASA
Relevant Coursework: Software Engineering, Applied Algorithms (In Progress), Prob. & Statistics, Engineering Design

PROJECTS

Portfolio Website | Three.JS, WebGL, GSAP, HTML, CSS, Blender *Jun 2025 - Apr 2026*
- Developed a cross-platform, interactive 3D portfolio website featuring a fully modeled room environment in Blender, serving as an engaging interface to showcase projects, interests, and experiences
- Optimized user experience through GPU texture preloading, texture baking, reduced dynamic lighting costs, and light/dark modes, ensuring smooth visual transitions and intuitive navigation across the site
- Implemented UI with raycasting and GSAP-driven animations, enabling clickable objects, and custom animations
- Engineered real-time rendering, glTF model loading, and asset management using Three.js and WebGL

Social Network Graph App | C++, GitHub *Nov - Dec 2025*
- Led a team of 5 computer engineering students on a network visualization app, collaborated using Agile project management
- Collaborated using GitHub Actions, via approved PRs, Kanban pipeline, applied CI/CD workflows, and automated unit tests
- Designed and implemented a person similarity model, analyzing data from profiles, to simulate a social network of 63 students
- Integrated Qt-based GUI with C++ backend for profile visualization, graph traversal, and pathfinding (breadth-first search)
- Added automatic dataset saving, intuitive dataset editing, and random dataset generation for user customization

Interactive Truss Simulation and Optimization Software | MATLAB *Nov - Dec 2025*
- Created MATLAB program to compute static internal forces, failure loads, and graphed designs for trusses
- Optimized existing design using Monte Carlo simulation, achieving 72.6% increased load above minimum capacity, 8.88% additional capacity from preliminary model design, 7.7% improved load-cost ratio, and strongest valid truss design in class
- Implemented buckling-strength regression, geometry and constraint verification, and GUI to automate improvement process
- Constructed acrylic truss using optimal model, compared the calculated and physical results by measuring uncertainty

Automatic Liquid Dispenser | Arduino *Sep - Dec 2025*
- Managed a team of 4 engineers to design, prototype, and manufacture a compact dispenser, applying industry design practices
- Prototyped an Arduino-based contactless liquid dispenser for a client, meeting all client goals and expectations
- Integrated infrared sensing, algorithms for pump control, and LCD/OLED UI for animated water level display and current device status feedback
- Configured embedded firmware to ensure reliable activation (95% detection accuracy) and consistent 25 mL dispensing

PROFESSIONAL EXPERIENCE

Freelance Web Development *Aug - Oct 2025*
- Built and launched an event website with online payments and registration links, driving a 30% increase in sign-ups
- Improved SEO and site visibility, boosting traffic by ~40% and expanded reach via QR codes and shareable marketing links
- Increased event attendance by 25%, increased recurring revenue, improved customer experience and community engagement

LEADERSHIP & ACTIVITIES

Peer Tutor (Informal), Boston, MA *Sep 2024 - Present*
- Provide academic support to 10+ Boston University students through frequent study sessions and homework help
- Guide students through complex technical concepts for engineering mechanics, physics, statistics, and software engineering
- Assess peer skill level and customize study plans, resulting in intuitive understanding and higher course performance

SKILLS

- **Programming Languages:** C++, C, MATLAB, Arduino, Python, Java, JavaScript, HTML, CSS
- **Technologies:** Git/GitHub, Google Suite, Microsoft Office, Blender, Onshape CAD, Squarespace
- **Languages & Interests:** Chinese (Proficient) | Pickup Basketball, League of Legends, Teaching, 3D Modeling/Rendering