**Daniel Ku**

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**Highlights & Qualifications**

* **Master of Computer Science** student at University of Illinois Champaign-Urbana.
* 4 years of **full-stack development experience** building web and platform applications, including **car park sharing systems** (OAuth login, booking) and **collaborative note-taking platform** (real-time sync, drag-and-drop UI)
* Strong technical foundation in **software engineering**, **AI/ML, blockchain**, and **IoT systems**, with projects spanning smart contracts, numerical simulations, and computer vision systems.
* **Skilled in tools and environments** for both **design** and **deployment** (Cursor, React.js, Node.js, Tensorflow.js, etc).
* Effective leadership & communication abilities, mentoring students, and collaborating in diverse teams.

**Education**

**Master of Computer Science**  **Jan 2025 – Present**

University of Illinois Urbana-Champaign, Grainger College of Engineering

**Bachelor of Science in Computer Science with Honors Aug 2021 – Dec 2024**

*Grainger College of Engineering James Scholar*

University of Illinois Urbana-Champaign, Grainger College of Engineering

**Technical Skills**

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| **Programming:** TypeScript, JavaScript, Java, C++, Rust, Python  **Databases:** PostgreSQL, MongoDB  **DevOps & Cloud:** Docker, AWS/GCP, Vercel, Railway | **Frameworks & Libraries:** React.js, Node.js, Tensorflow.js, WebSockets, CSS  **Design & CAD tools:** Solidworks, Blender |

**Web Application Development Experience – Rotarygolf.info**

**Rotarygolf.info** – Taipei, Taiwan **June 2025 – Present**

*Founder, Software Developer*

* Developed a full-stack golf tournament management system using **React**, **TypeScript**, and **PostgreSQL** serving a **50**-member golf club with plans to scale to ~**100** clubs in Taipei,
* Utilized fast text recognition **OCR** models to collect golf score data, created an intuitive UI designed for easy adoption by non-technical users, featuring role-based authentication, real-time leaderboards, automated award calculations

**Full-Stack Development Experience – Luca Park Share**

**Luca Park Share** – Remote **May 2025 – Present**

*Software Developer*

* Implemented core features (OAuth login, reservations, notifications) in **React/Node/PostgreSQL**; designed RESTful APIs for booking workflows.
* Collaborated with product/design teams to build **database schema** for user accounts, reservations, and payments; built **admin dashboard** for monitoring usage and disputes.

**Blockchain & Startup Incubation Experience – Steel Perlot**

**Steel Perlot** – New York City, New York  **May 2022 – Aug 2022**

*Deep-tech Research Intern*

* Launched a startup incubation program providing **$1.5M** in grants to talented builders working on Web3 problems.
* Networked and organized satellite events at Web3 conferences and hackathons to scout potential hires and investments.
* Conducted technical analysis on potential startup investments, market sentiment, and various competitive landscapes.

**Technical Projects**

**Internet of Things (CS 437) Capstone Project** – Champaign, IL **Jan 2024 – May 2024**

* Built a real-time bicycle hazard detection system with **SSD-MobileNet-v2 on Raspberry Pi**, optimized via **Google Coral Edge TPU** and model quantization for fast, edge-device inference.
* Developed a smart taillight with **ESP32-S3, BLE, and 8×8 LED matrix**, integrating text-to-speech audio alerts, multiprocessing queues, and a custom 3D-printed enclosure for scalable IoT deployment.

**Numerical Methods for PDEs (CS 555) Final Project** – Champaign, IL **Jan 2025 – May 2025**

* Implemented **finite volume methods** to simulate shallow water equations across varying conditions, including water drop, dam break, and dam break with circular obstacle scenarios.
* Compared solution behavior on triangular vs. uniform grid meshes, developing graphical animations in **Python/Matplotlib** to visualize fluid-structure interactions and mesh-dependent accuracy.