Ruikai (Patrick) Peng

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DOB: April 29, 2009
Applying for: Grade 10 (Fall 2025 Entry)
Nationality: Chinese

EDUCATION

Avon Old Farms School, Avon, CT   **Sep 2024-Present**
- Youngest invited speaker at Zer0con25, International Security Conference
- Working closely with current high school to department of technology on cybersecurity for pro bono vulnerability discovery & disclosure
  - Reported and assisted on mitigation: critical hardware security vulnerabilities allowing bypassing HID Doors Access control (arbitrary access of protect door), via research on H10301 HID protocol, hardware level exploitation
  - Reported and assisted on mitigation: DMARC spoof attacks that allow arbitrary email impersonating (send GMail as anyone), sent a school-wide testing mail during Proof-of-Concept stage. Reported to Google.
  - Reported a critical issue in the school's boarding management system, REACH, that allowed unauthorized access to administrator accounts; received personal thanks from the company's CEO Brian Murray

Shanghai Shangde Experimental School, Shanghai, China   **Sep 2015 -July 2024**
- Youngest member of Tencent Spark Talent Program
- CMU PicoCTF24 (individual entry): 10th/6957, 0.1438% Globally.
- CMU PicoCTF22 (individual entry): 38th/7794, 0.4875% Globally.
- USAP-2022 Silver medal Globally, Team overall 5th
- Science Fair 22: Most Creative Project

I AM A…

Machine-Learning Security Researcher

- Currently collaborating with HiddenLayer Research; Conducted independent research to find serious security flaws in widely used platforms such as Microsoft, Google, and Evernote, with over 25 issues officially recognized by the U.S. Department of Homeland Security; earned more than $20,000 in rewards for reporting these vulnerabilities, helping companies fix problems before they could be exploited
- Invited as the youngest speaker to present at the Zer0Con International Security Conference (Seoul, 2025), presenting a full-hour talk on advanced computer security topics related to machine learning security research alongside experts from Nvidia, Alibaba, Offsec, and the Linux Kernel team
- Interned in AI/ML Security at Tencent's Spark Talent Program at age 13 — youngest in the program's history, which includes college-level participants from MIT, Stanford, and Tsinghua
- Received opportunities to collaborate/intern at Mozilla, Metalware (YC S23), BlueCrest Capital, and Cellebrite
- Write and publish on my blog, retr0.blog, which attracts more than 20,000 readers each month; my articles have been featured and republished by well-known cybersecurity outlets, incl. a front-page feature on Y-Combinator's Hacker News.
- Researcher and technical writer for ProtectAI (Series B), where my work became part of the safety screening tools used by Hugging Face, the world's largest AI model-sharing platform
- Founded Protosec Research, a boutique research group focused on machine learning automation; currently collaborating with University of Maryland researchers on machine learning dataflow analysis.
- Contributor to open-source Llama.cpp, focused on improving the efficiency of large AI language models

Gender equality advocate

- Founder of KeepMarching.org, a student-run gender equality advocacy and research group using storytelling to highlight female civil rights figures.
  - Inspired by Shaina Taub's Broadway musical SUFF and Doris Stevens's Jailed for Freedom
  - Collaborated with peers from New York and China to publish reflections on the Equal Rights Amendment and profiles of Billie Jean King, Sally Ride, and other trailblazers

Founder

- questy.live: founder of Questy, campus-base gig economy platform, board and huge variety of short-to-long term side-hustles for students in boarding campus setting (B2B). Money on campus is the major problem we faced, we changed from the original P2P-escrow to "Favor-to-Favor" credit-system (side-hustles for side-hustles) (solves the original problem induce spontaneity) which had pivoted to Lono (Location-based Campus Network. We use locations to low entropy of everything, daily informations, announcements, discussion based, and with the original Questy integrated)
- Building techdebt, vibe-coding era solution to techdebt for millions of AI dependent developers. MCP SaaS, turning techdebts into your personalized pathways for growth.

Theater Actor

- Full year member of the Avon Old Farms Theater Program.
- Played lead and supporting roles in school productions:
  - Actor 1 - *Immature Soundboard Operator* (Grade 9 Spring Production, Leading)
  - Ares, Ensemble – *The Lightning Thief* (Grade 9, Winter Production, Supporting)
  - Tierney – *The Birds* (Grade 9, Fall Production, Supporting)
  - Troy Bolton – *High School Musical* (Middle School Production, Leading)

Soccer Mid-fielder

- Center Forward in the Shanghai Shangde Varsity Soccer Team

INTERESTS

- **Interests**: Staring at crowds in Rockefeller Plaza, wondering what story each person carries; Late-night thinking, occasionally solving security flaws, occasionally overthinking texts; Obsessed with rainy window reflections and also reverse engineering HID protocols; Buying a Holden Caulfield hat that looks horrendous but still feels symbolic; Writing notes that start as technical logs and end as personal essays; Believing every exploit has a story, and every person is a little unsolved puzzle