

# TOM SMITH

✉ i@shuaitq.com · ☎ (+86) 151-1537-2806 · 🌐 shuaitq · 🏠 Tom Smith's

## 🎓 EDUCATIONAL BACKGROUND

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**Harbin Institute of Technology at Weihai**, Shandong, China 09/16 – Present  
*Undergraduate student* in Computer Science and Technology, expected to graduate on 06/20

## ⚙️ PROFESSIONAL SKILLS

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- Programming Languages: C++ with C++11 = C > Java = Python = Go > Haskell > Rust
- A master of utilizing Linux which is used for daily development
- Proficiency in algorithms, data structures, operating systems, hardware structures, etc
- Have experience with version control tool like Git, team tool like GitHub, and understand modern software development process

## 👥 PROJECT EXPERIENCE

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**P2P virtual network interconnection** 09/17 – 01/18  
*C, Linux* Lab project, based on P2P network design, can penetrate some types of NAT and support multiple encryption algorithms to achieve secure interconnection across networks

- Participate in the design of UDP-based communication protocols and heartbeat packet mechanism
- Complete the first version of the server-side and client-side design in cooperation with the senior
- Participate in the design of multi-platform library architecture, referring to the implementation of DPDK's lock-free ring buffer

**Secure WiFi App** 01/18 – 02/18  
*Java, Android* Lab project, according to the current network and credit list, the encrypted connection will open automatically to protect information security

- According to the art design, complete the interface effect and interface logic
- Dock with seniors' encrypted connection service to properly handle network handoff event

## 🐱 PERSONAL PROJECTS

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**MoonLight** <https://github.com/shuaitq/MoonLight>  
*C++* A global illumination renderer using unbiased Monte Carlo path tracing

- Support for three camera models: perspective camera, fisheye camera and orthographic camera
- Support for three materials: glass, mirror and matte materials
- Render material roughness correctly

**Aurora** <https://github.com/shuaitq/Aurora>  
*C++* A software raster renderer

- Support for using json to define parameters such as scene, camera, light, and so on
- Adopt obj format model, ppm format texture, and support bilinear filtering
- Support both directional and point light
- Use Z-Buffer to ensure the correct order of rendering, and support back-face culling and triangle culling

## ♥ HONORS AND AWARDS

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3 <sup>rd</sup> Prize, The 2017 ACM-ICPC China Shandong Provincial Programming Contest	05/17
2 <sup>nd</sup> Prize, 21 <sup>st</sup> National Olympiad in Informatics in Provinces - Hunan Division	11/15
2 <sup>nd</sup> Prize, 20 <sup>th</sup> National Olympiad in Informatics in Provinces - Hunan Division	11/14
3 <sup>rd</sup> Prize, 19 <sup>th</sup> National Olympiad in Informatics in Provinces - Hunan Division	11/13

## **i** MISCELLANEOUS

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- Get the newest version of this resume: <https://github.com/shuaitq/resume>
- Love learning new skills and knowledge, and be happy to make friends