

Tradecraft Report

How OSINT Can Help Identify Employment Fraud

October 2024



Employment fraud poses a significant risk to companies that depend heavily on a remote workforce. Successful employment fraud investigations rely on a combination of Open Source Intelligence (OSINT) and internal investigation components. Human Resource or Corporate Security professionals often do not have the time and resources to perform appropriate OSINT searches and thus rely on Managed Intelligence service providers, such as Nisos, to perform comprehensive OSINT research, often at the direction of legal counsel under attorney-client privilege, to assist in the investigation. Nisos investigators provide an example of initial research in an OSINT investigation looking for duplicated and appropriated resume content based on a resume that has been identified by a third party as involved in employment fraud related activities.

Nisos identified five freelance personas probably used by Democratic People's Republic of Korea (DPRK, a.k.a. North Korea) information technology (IT) workers to fraudulently obtain remote employment from unwitting companies not just in the United States, but also Europe and Asia.

- Investigators found one persona by searching for exact copies of a resume provided by a United Nations Security Council report.
- Investigators found three additional personas by searching for exact copies of work experiences identified for the first persona.
- Lastly, investigators conducted an image search for one of the profile photos of the first persona, which revealed another persona with the same image.

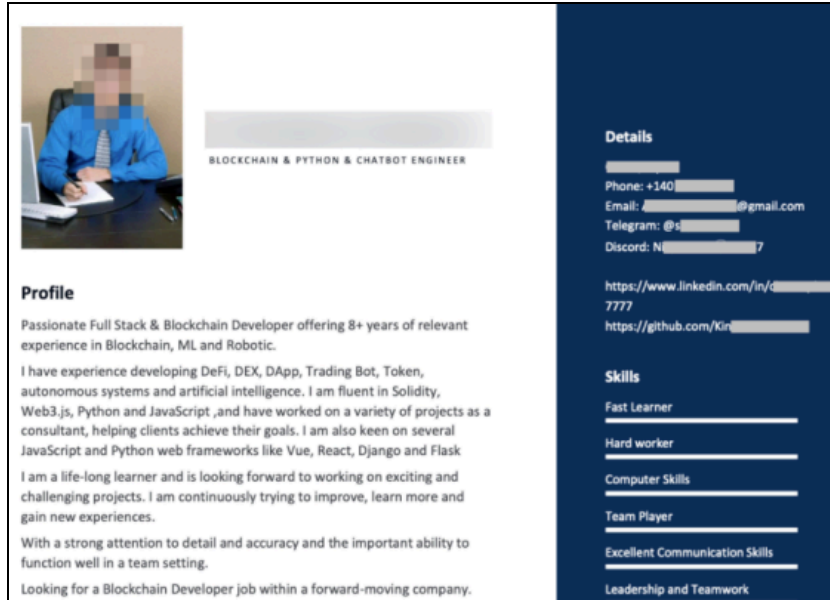
Investigators found that each of the five personas used the same tactics, techniques and procedures (TTPs) identified in the Nisos December 2023 research post, specifically appropriating resume content and highlighting experience in blockchain transactions.¹ Investigators also found that three of the five personas appropriated names and profile photos from other individuals, including individuals based in the US, and in one case digitally manipulated the profile image, to create accounts on freelance websites.

Appropriated Resume Content - Experience in Blockchain

In March 2024, the United Nations Security Council circulated a panel of experts report which highlighted that DPRK nationals working overseas earn income in violation of sanctions, including in the information technology, restaurant and construction sectors.² In the report, the panel highlighted the below falsified DPRK IT worker resume, which focused on the persona's experience as a Full Stack and Blockchain developer. Investigators used the first two paragraphs of the resume to initiate an investigation in an attempt to identify other personas probably used by DPRK IT workers.

¹[https://www.nisos\[.\]com/research/dprk-it-worker-scam/](https://www.nisos[.]com/research/dprk-it-worker-scam/)

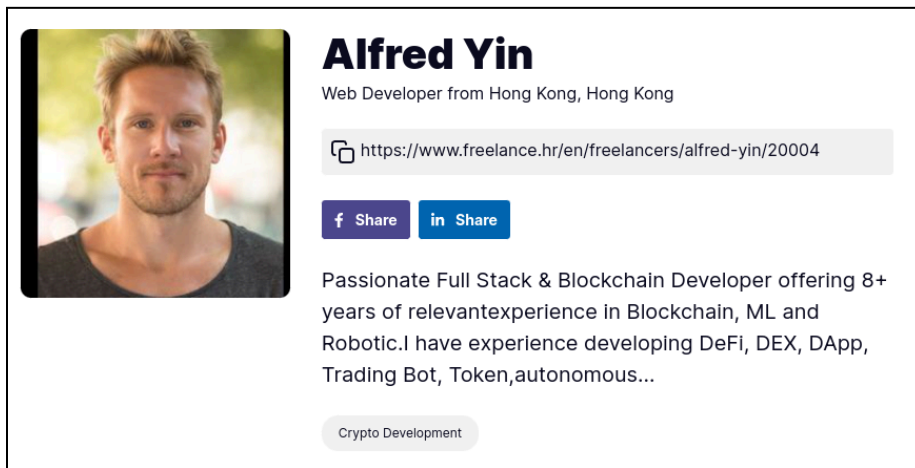
²[https://www.securitycouncilreport\[.\]org/atf/cf/%7B65BF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/S%202024%20215.pdf](https://www.securitycouncilreport[.]org/atf/cf/%7B65BF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/S%202024%20215.pdf)



Graphic 1: Falsified resume content.


Alfred Yin

Nisos investigators identified two freelancer accounts for “Alfred Yin” that both use the same resume content as the falsified resume above. The two accounts use the same name and introduction language as the previously identified resume; however the accounts show inconsistency in location, suggesting that the accounts are probably used to appeal to potential clients in various regions. A closer inspection of the profile photo from the second Alfred Yin account also reveals indications of digital manipulation, namely that the face of the individual was likely pasted onto a stock suit and tie.



Graphic 2: Freelance account 1 for Alfred Yin.³

³[https://www.freelance\[.\]hr/en/freelancers/alfred-yin/20004](https://www.freelance[.]hr/en/freelancers/alfred-yin/20004)



Alfred Yin
Full Stack & Blockchain Developer

Passionate Full Stack & Blockchain Developer offering 8+ years of relevant experience in Blockchain, ML and Robotic. I have experience developing DeFi, DEX, DApp, Trading Bot, Token, autonomous systems and artificial intelligence. I am fluent in Solidity, Web3.js, Python and JavaScript ,and have worked on a variety of projects as a consultant, helping clients achieve their goals. I am also keen on several JavaScript and Python web frameworks like Vue, React, Django and Flask I am a life-long learner and is looking forward to working on exciting and challenging projects. I am continuously trying to improve, learn more and gain new experiences. With a strong attention to detail and accuracy and the important ability to function well in a team setting. Looking for a Blockchain Developer job within a forward-moving company.

- Self-Employed
- Far Eastern Federal University
- Serbia

Graphic 3: Freelance account 2 for Alfred Yin.⁴



Graphic 4: A close up of the profile photo of account 2 for Alfred Yin, which reveals likely digital manipulation.

Appropriated Resume Content - Website Design

Nisos investigators identified six freelancer accounts for three personas that used the same resume content as Alfred Yin’s account 2. Yin’s account 2 claims to have worked for Evernote as a Full stack developer between August 2014 and November 2017 and listed a number of experiences and achievements. Nisos investigators identified the same experiences, with slight variations, on three

⁴[https://cakeresume\[.\]com/me/alfred-yin](https://cakeresume[.]com/me/alfred-yin)

freelance separate freelance accounts, suggesting they are personas used by the same probable DPRK actors to appeal to different client sets.



Full stack developer

Evernote

Aug 2014 - Nov 2017 • 3 yrs 4 mos

 Vladivostok, Primorsky Krai, Russia


- Worked as a full-stack developer and a project manager.
- Supported Cheif Information Officer with daily operations and performed client assessment for research.
- Developed strategy and architecture for clients in alignment with business plans and managed delivery of end-to-end projects.
- Contributed to developing and updating many end-to-end projects and marketing services(<https://www.1stdibs.com/>, <https://www.9flats.com/>, <https://www.everlane.com/>).

Graphic 5: Resume Experience for Alfred Yin account 2.⁵

Freelancer A

Investigators found the following freelancer accounts for Freelancer A, based on research for the appropriated resume content for Alfred Yin. Freelancer A and Alfred Yin list the same employers and work achievements, including misspelling “Cheif” Information Officer. Investigators also found that the profile image as well as the name of the persona were appropriated from a US based individual with the same name. The active Paypal account suggests that the Freelancer is still actively looking for employment as of mid September 2024. A review of the portfolio associated with the persona found that the user appropriated the content from other Freelance developers.

⁵[https://www.cakeresume\[.\]com/me/alfred-yin](https://www.cakeresume[.]com/me/alfred-yin)

 **Fullstack engineer at Evernote**


IT・通信・インターネット エンジニア 正社員 本業として

Led the overhaul of a major retail client's e-commerce platform, focusing on enhancing user experience and backend efficiency. Introduced modern web technologies to revamp the site architecture, resulting in a 40% improvement in load times and a 35% increase in online sales. Implemented responsive design principles, making the platform accessible across a variety of devices and screen sizes. Integrated secure payment gateways and developed a custom, intuitive CMS, enabling the client to easily manage content and inventory.

- Worked as a full-stack developer and a project manager.
- Supported Chief Information Officer with daily operations and performed client assessment for research.
- Developed strategy and architecture for clients in alignment with business plans and managed delivery of end-to-end projects.
- Developed the authentication flow including register, email/social login, reset password, and confirm email.
- Designed architecture and developed a fast, reliable and scalable REST API for a cloud based recruitment and workforce management platform.
- Contributed to developing and updating many end-to-end projects and marketing services(<https://www.1stdibs.com/>, <https://www.9flats.com/>, <https://www.everlane.com/>).


2014年8月 ~ 2016年6月

Graphic 6: Resume Experience for account 1 for Freelancer A.⁶

 **Frontend Lead Dev**

SEAP Team

- Implemented tests using Mocha, Chai, Jest, Jasmine, deployment scripts and maintained development, staging and production environments.
- Managing Project using Trello, Jira and the others according to each sprint that were based on the MVP.
- Improved operational efficiency by revamping the company's admin dashboard. • Supported the DevOps team to automate CI/CD.
- Created a document viewer application with built-in image manipulation and text extraction using Ocrad.js.

 **Fullstack engineer**

Evernote

- Worked as a full-stack developer and a project manager.
- Supported Chief Information Officer with daily operations and performed client assessment for research.
- Developed strategy and architecture for clients in alignment with business plans and managed delivery of end-to-end projects.
- Designed architecture and developed a fast, reliable and scalable REST API for a cloud based recruitment and workforce management platform.


Jul, 2016 - May, 2017
10 months

Aug, 2014 - Jul, 2016
1 year, 11 months

Graphic 7: Resume Experience for account 2 for Freelancer A.⁷

⁶[https://www.lancers\[.\]jp/profile/xxxx_xxxx/](https://www.lancers[.]jp/profile/xxxx_xxxx/)

⁷[https://www.freelancer\[.\]com/u/rockstardevs11](https://www.freelancer[.]com/u/rockstardevs11)


@Rockstardevs11 

Hi !!! GIVE ME A CHANCE! I CAN DO YOUR PROJECT PERFECTLY! I read your job description and fully understood it. I have experience completing similar projects like this. If you hire me, I will provide the best service in terms of time, price and product quality. I look forward to your choice!!

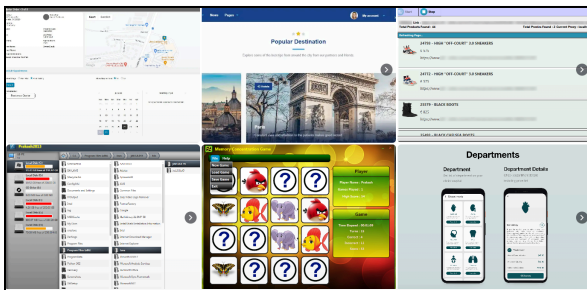
Note: When a task is presented, numerous bid requests are raised without even researching the contents, so it is not possible to provide a detailed description. I think effective conversations are more important than flashy bid messages. If you choose me, the conversation will give you a more detailed view of the task. *~ This time I will show you my skill and technology. And then we can have a good and long term relationship each other.~*

₹200,000 INR in 7 days

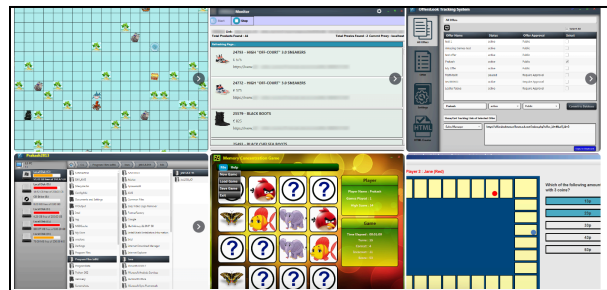
★★★★★ 0.0 (0 reviews)

0.0  |■■■■■■■■■■

Graphic 8: Example of account 2 for Freelancer A bidding on a project.⁸



Graphic 9: Example of the portfolio for Freelancer A account 2.⁹



Graphic 10: Example the portfolio for another developer.¹⁰

⁸[https://www.freelancer\[.\]ca/projects/python/english-nlp-for-bid-document](https://www.freelancer[.]ca/projects/python/english-nlp-for-bid-document)

⁹[https://www.freelancer\[.\]ca/u/rockstardevs11](https://www.freelancer[.]ca/u/rockstardevs11)

¹⁰[https://www.freelancer\[.\]com.bd/u/prakash2813](https://www.freelancer[.]com.bd/u/prakash2813)

11 months, Jul 2016 - May 2017

Frontend Lead Dev

Smooth Team

2 years, Aug 2014 - Jul 2016

Fullstack engineer

Evernote

Graphic 11: Resume Experience for account 3 for Freelancer A.¹¹

Hi Nice to meet you all, I am who is a versatile software and full stack developer passionate about innovation and user-centric solutions. With expertise in front-end, back-end, AI, machine learning, and mobile development, I offer a comprehensive range of services to elevate your projects.

Services:

- Custom Web Apps: Tailored solutions from concept to deployment.
- Full Stack Development: Expertise across the entire tech stack.
- AI & ML Solutions: Custom models and algorithm integration.
- Mobile App Development: Native and cross-platform apps for iOS and Android.
- API Integration: Seamless connectivity with third-party services.
- Database Optimization: Efficient, secure data management.
- Responsive Design: Optimal user experience across devices.
- CI/CD Implementation: Streamlined development processes.
- Cloud Deployment: Scalable, reliable cloud solutions.

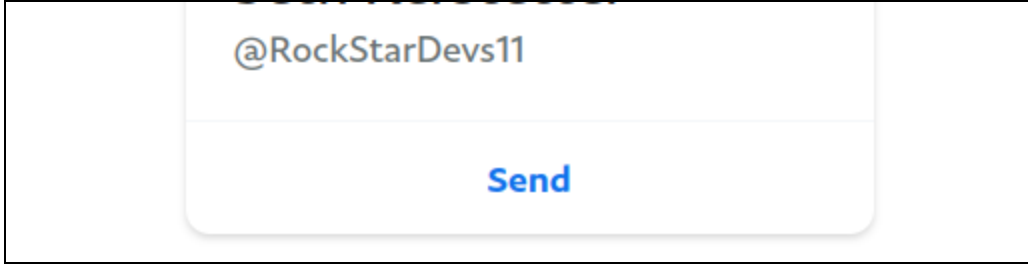
Conclusion:

With a focus on quality and innovation, I'm here to bring you

Graphic 12: Resume for account 4 for Freelancer A.¹²

¹¹[https://www.xing\[.\]com/profile/xxxx_xxxxxxxxxxr](https://www.xing[.]com/profile/xxxx_xxxxxxxxxxr)

¹²[https://www.founderio\[.\]com/entrepreneur/3432915](https://www.founderio[.]com/entrepreneur/3432915)



Graphic 13: Paypal account for Freelancer A.¹³

Ken Lee

Investigators identified another persona, Ken Lee, based on their use of the appropriated resume content from Alfred Yin. Lee and Yin list the same employers and work achievements, including misspelling “Cheif” Information Officer. Investigators also note that Lee is interested in Blockchain and Crypto.

<p>Evernote August 2014 – July 2016</p>	<p>Job title Fullstack engineer</p> <p>Work experience & achievements</p> <ul style="list-style-type: none"> • Worked as a full-stack developer and a project manager. • Supported Cheif Information Officer with daily operations and performed client assessment for research. • Developed strategy and architecture for clients in alignment with business plans and managed delivery of end-to-end projects. • Developed the authentication flow including register, email/social login, reset password, and confirm email. • Designed architecture and developed a fast, reliable and scalable REST API for a cloud based recruitment and workforce management platform. • Contributed to developing and updating many end-to-end projects and marketing services(https://www.1stdibs.com/, https://www.9flats.com/, https://www.everlane.com/).
<p>Smooth July 2016 – June 2019</p>	<p>Job title Frontend Lead Dev</p> <p>Work experience & achievements</p> <ul style="list-style-type: none"> • Developed the core product (online auctions) using two-way real-time

Graphic 14: Resume Experience for Ken Lee.¹⁴

Lindsey Hildebrand

Investigators found the freelancer account for Lindsey Hildebrand, based on research for the appropriated resume content from Alfred Yin. The two personas list the same employers and work achievements, including misspelling “Cheif” Information Officer. Investigators also note that Lindsey

¹³[https://www.paypal\[.\]com/paypalme/rockstardevs11](https://www.paypal[.]com/paypalme/rockstardevs11)

¹⁴[https://laborx\[.\]com/freelancers/users/id308415](https://laborx[.]com/freelancers/users/id308415)

Hildebrand is interested in Blockchain and Crypto. The account also links to a Github account that is no longer active.¹⁵

<p>Evernote August 2014 – July 2016</p>	<p>Job title Fullstack engineer</p> <p>Work experience & achievements</p> <ul style="list-style-type: none"> • Worked as a full-stack developer and a project manager. • Supported Chief Information Officer with daily operations and performed client assessment for research. • Developed strategy and architecture for clients in alignment with business plans and managed delivery of end-to-end projects. • Developed the authentication flow including register, email/social login, reset password, and confirm email. • Designed architecture and developed a fast, reliable and scalable REST API for a cloud based recruitment and workforce management platform. • Contributed to developing and updating many end-to-end projects and marketing services(https://www.1stdibs.com/, https://www.9flats.com/, https://www.everlane.com/).
<p>Smooth July 2016 – June 2019</p>	<p>Job title Frontend Lead Dev</p> <p>Work experience & achievements</p> <ul style="list-style-type: none"> • Developed the core product (online auctions) using two-way real-time communication with a Firebase database. • Built a Node.js daemon to monitor auctions that are ending soon and update UI for all clients in real-time. • Deployed static websites on AWS or Microsoft Azure. • Implemented tests, deployment scripts and maintained development, staging and production environments. • Introduced advanced resource planning features that take into consideration employee availability and a flexible platform for generating and maintaining user shifts. • Contributed to end-to-end projects and services(https://chriscortazzo.com/ https://www.vouch.com https://trainerworkout.com/ https://www.incuto.com/ https://www.stylelend.com https://lol-eloboosting.com/ https://www.hayu.com/)

Graphic 15: Resume Experience for Lindsey Hildebrand.¹⁶

Appropriated Photos

Nisos investigators found that the individual in the profile image for the Alfred Yin account 1, highlighted above, is really Daniel Holmes, the former creative director for Jack Morton Worldwide. The photo was likely taken from an article describing Mr. Holmes’ next employment opportunity.¹⁷ Investigators found that the same photograph was also used on another freelance account likely used by DPRK IT workers to fraudulently obtain remote employment from unwitting companies in the United States.

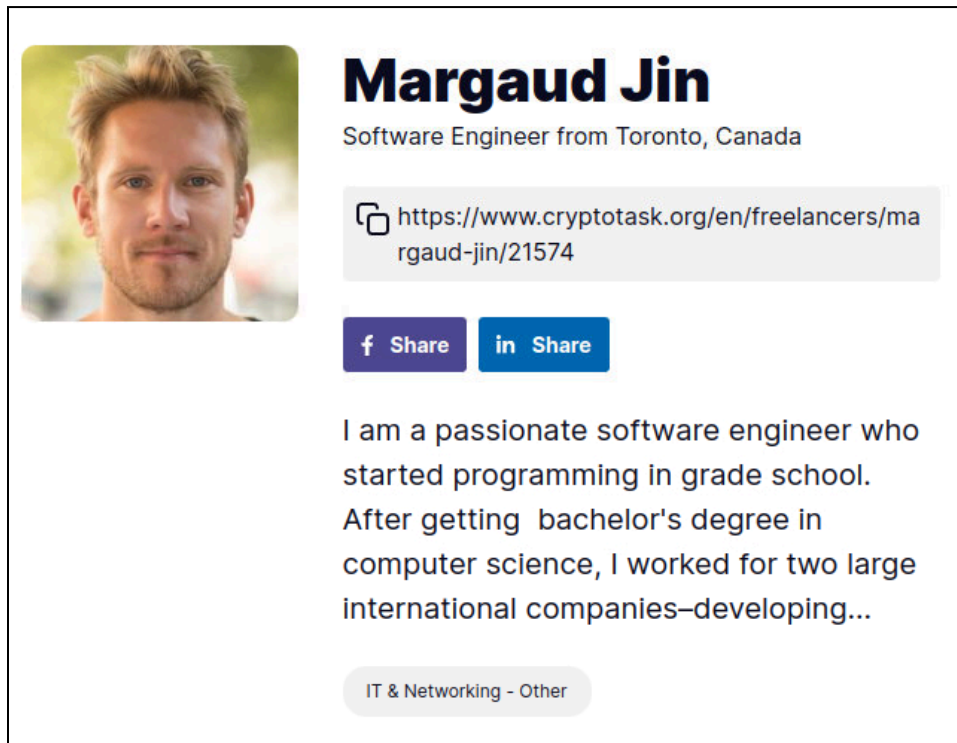
¹⁵[https://github\[.\]com/istar07](https://github[.]com/istar07)

¹⁶[https://laborx\[.\]com/freelancers/users/id308415](https://laborx[.]com/freelancers/users/id308415)

¹⁷[https://www.prweek\[.\]com/article/1591231/hill+knowlton-strategies-names-daniel-holmes-ny-creative-director](https://www.prweek[.]com/article/1591231/hill+knowlton-strategies-names-daniel-holmes-ny-creative-director)

Probable Additional DPRK Accounts

Nisos investigators identified an additional persona with two freelance accounts based on research on the photograph of Daniel Holmes. The account focuses on experience with two large unidentified international companies and a background with remote client work. The two accounts used the same name and location, however the accounts showed inconsistency in experience and profile photo, suggesting that the accounts are probably used to appeal to different potential client sets.



Graphic 16: Freelance account 1 for Margaud Jin.¹⁸



Graphic 17: Freelance account 2 for Margaud Jin.¹⁹

¹⁸[https://www.cryptotask\[.\]org/en/freelancers/margaud-jin/21574](https://www.cryptotask[.]org/en/freelancers/margaud-jin/21574)

¹⁹[https://www.xing\[.\]com/profile/Margaud_Jin](https://www.xing[.]com/profile/Margaud_Jin)

How Can Nisos Help You?

Successful employment fraud investigations rely on a combination of external and internal investigation components. Nisos' non-attributable investigation methods combined with our client's own network infrastructure research have successfully identified DPRK remote worker employment fraud and traditional employment fraud indicators. Partnering with an intelligence and investigations firm like Nisos can help enterprise leaders more quickly understand, prevent and in some cases cease unwanted activity within their companies to protect their own and their client's sensitive data.

About Nisos®

Nisos is the Managed Intelligence Company. We are a trusted digital investigations partner, specializing in unmasking threats to protect people, organizations, and their digital ecosystems in the commercial and public sectors. Our open source intelligence services help security, intelligence, legal, and trust and safety teams make critical decisions, impose real world consequences, and increase adversary costs. For more information, visit: <https://www.nisos.com>.