# REPORT
# OSINT Email Enumeration & Validation

*v1.0.1*

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March 31, 2025

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## Revision History

| Version | Date | Author | Description of Changes |
|---|---|---|---|
| 1.0.0 | 10/17/2025 | Eldon G. | Initial draft. |
| 1.0.0 | 03/31/2026 | Eldon G. | Updated formatting & added figures 1-3 screenshots |

# 1.0 Email Reconnaissance and Validation

## 1.1 Project Description

An **Open-Source Intelligence (OSINT**) exercise was performed to find and check potential email addresses linked to a target domain and person using public data sources.

## 1.2 Scope

The work focused on:

1. Locating email addresses within publicly accessible **PDF files** using targeted search queries.
2. Generate educated email guesses based on the identified **naming conventions**.
3. Testing mailbox validity using online email **verification tools**.

## 1.3 Tools and Environment

- **Kali Linux** virtual machine, running within a **Virtual Private Network** (**VPN**)
- `Google Search` (using advanced operators/dorks)
- Email verification tools: **Hunter.io**, **CentralOps.net**
- Local text editor for documentation

# 2.0 Execution

## 2.1 Reconnaissance

Google dorks were used to locate exposed PDF documents containing contact information. This involved leveraging the `filetype:pdf` operator in conjunction with organization-specific keywords. An example of a successful query pattern is as follows:

```
"example company name" filetype:pdf "contact" OR "email”
```

The PDFs provided both a reference **organization email** and a **personal email** that served as baselines for the pattern analysis.

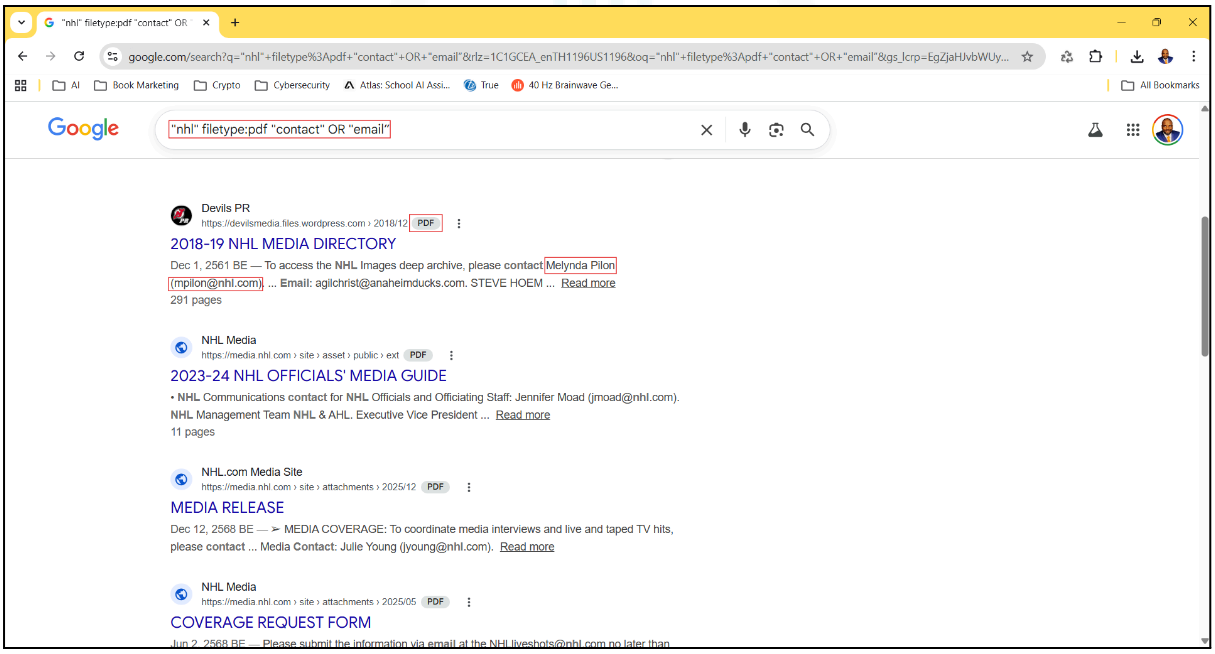
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**Figure 1:** Screenshot of a Google “dork” search. March 31, 2026. Eldon G.

## 2.2 Pattern Analysis

From the organization’s email (e.g., *mpilon@nhl.com*), I identified the corporate **naming convention**: `[first initial][last name]`. This format was verified against other staff members within the same document to ensure its accuracy.

## 2.3 Email Guess Generation

**Organization Guesses:** Using the established `[first initial][last name]` pattern, I generated organizational email guesses for two other employees mentioned in the file:

- *Jbernstein@nhl.com*
- *jyoung@nhl.com*

**Personal Guesses:** For email *jbernstein@nhl.com*, I created expanded guesses across three other providers. I maintained the username *josh.bernstein1*.

- *josh.bernstein1@yahoo.com*
- *josh.bernstein1@gmail.com*
- *josh.bernstein1@cloud.com*

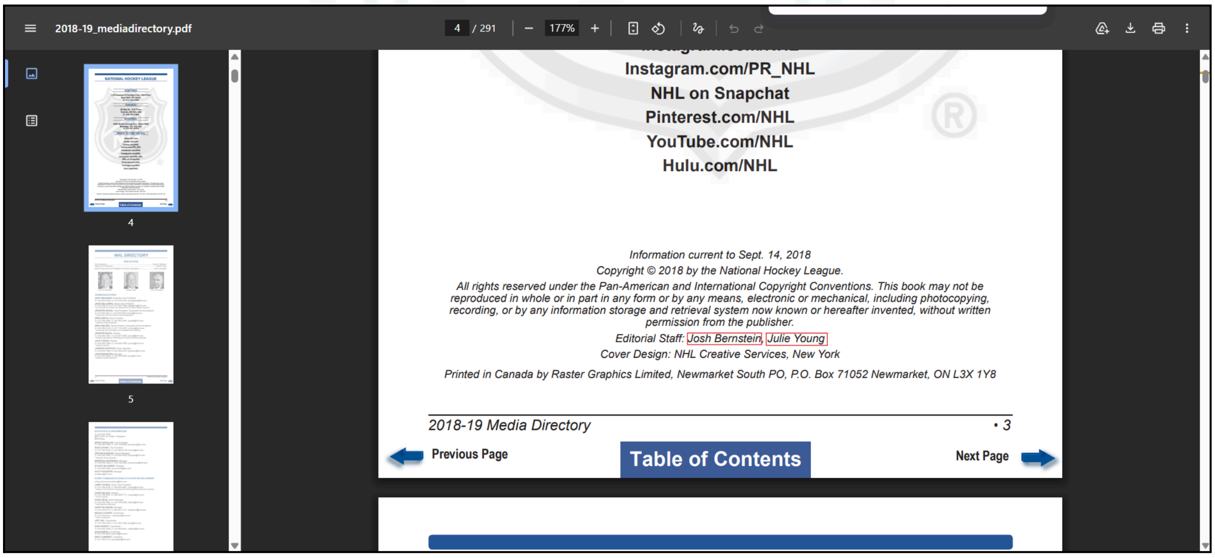

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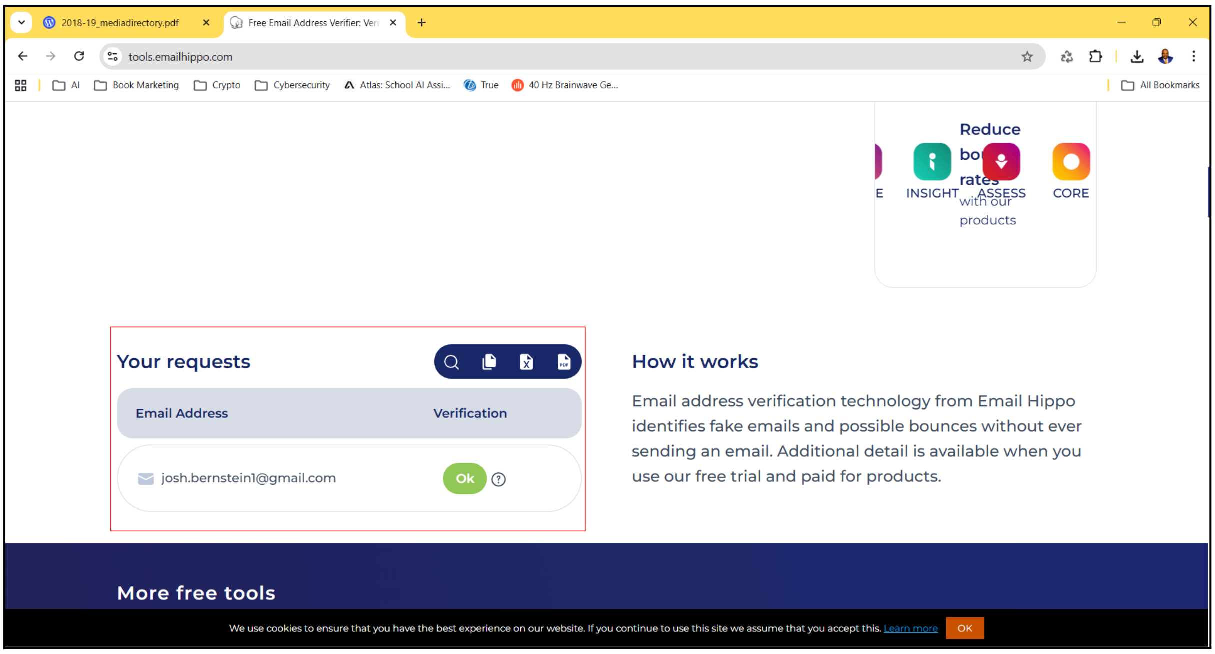
**Figure 2:** Screenshot of Editorial Staff without contact information. March 31, 2026. Eldon G.

## 2.4 Verification

Each guessed address was tested using an online verification tool. This process checks for the existence of the mailbox by querying the MX records of the domain and/or attempting an **SMTP connection** (depending on the tool).

**Key Observation:** Results varied from a definitive **“valid”** to **“unknown”** or **“risky,”** highlighting the importance of using multiple tools and acknowledging the limitations of free-tier services. At least one of the guessed email addresses returned a definitive 'valid' response, which was cross-validated by one of the verification tools.



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| Email Address | Verification |
|---|---|
| josh.bernstein1@gmail.com | Ok |

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**Figure 3:** Screenshot of verified email address. March 31, 2026. Eldon G.

# 3.0 Findings

## 3.1 Summary Findings

- The naming convention of the target organization was confirmed to be **predictable and uniform**, which allowed for successful enumeration.
- At least one of the guessed email addresses returned a definitive **“valid”** response for all verification tools.
- Verification tools exhibit varying levels of accuracy and are subject to rate limitations under their free-service tiers, which can impact the reliability of the final results.

# 4.0 Conclusion

## 4.1 Key Takeaways

- **Publicly exposed PDFs** and other documents are primary sources for quickly identifying internal organizational naming conventions.
- Email enumeration remains a **practical and low-cost** initial step in OSINT investigations.
- Verification accuracy depends heavily on the **tool's methodology** (e.g., simple MX check vs. full SMTP validation).

## 4.2 Security Implications & Recommendations

**Audit and Redaction:** Organizations should implement strict policies to audit and redact sensitive employee contact information from all publicly accessible documents, including PDFs files.

**Use Aliases:** Replace direct staff emails with **generic contact aliases** (e.g., *info@, support@*) in public materials to prevent automated data harvesting from these sources.

**Ethical Boundary:** Investigators must strictly adhere to the legal and moral limits of OSINT; verified addresses must **never** be used for contact, intrusion, or social engineering attempts.