Thomas I. Bereknyei

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- Technical planner and developer with 10 years of experience planning operations and designing systems in both business and military settings working with researchers, engineers, operators, and end-users to create efficient and creative solutions.
- Experienced project manager as lead planner for technical and operational wargames involving multiple organizations at distributed locations.
- Proven ability to identify and implement decisive solutions with significant business and operational impact.

PROFESSIONAL EXPERIENCE

Senior Cyberspace Operations Officer — 2015 — 2016
Cyber National Mission Force — Fort Meade, MD

- As Senior Cyber Operations Officer (SCOO) directed the execution of over 200 cyberspace missions and nearly 900 hours of execution performed by a dozen National Mission Teams (NMTs). Responsible for maintaining situational awareness of all Cyber Inter Surveillance Reconnaissance, Operational Preparation of the Environment and Offensive Cyber Operations (OCO) performed by the Cyber National Mission Force (CNMF). Direct representative of the CNMF to cryptologic partners for CNMF efforts and projects aligned to NMTs.
- Exercised Mission Commander role in monthly exercise of a cyber weapon system protecting forces fighting counter-terrorism. Investigated and uncovered critical bottleneck in utilization of capability. Directed quarterly drills for defensive counter cyber-attack missions developing procedures and policy for effective C2.
- Managed growth during a period of doubling of operational tempo. Coordinated CNMF support for time-sensitive operations, setting precedent and establishing staff procedures for effective use of cyberspace C2 tools. Automated routine tasks via SharePoint and AngularJS based portal - effectively reducing manpower requirements by half. Cyber C2 Portal for Operations (C3PO) subject matter expert.
- Facilitate and instruct the USCYBERCOM Mission Commander (MC) course. Establish curriculum, manage course content development and coordinate instructors to meet J7 requirements. Established precedent of an instructor cadre for standardization and professional excellence. Advised in the development of Mission Commander responsibilities and execution of named cyberspace operations.
- Partner with NSA Tailored Access Operations and NSA Threat Ops Center to deconflict and enable full-spectrum cyberspace operations.

Exercise Director — 2013 — 2015
Marine Forces Cyberspace Command — Fort Meade, MD

- Manage MARFORCYBER exercise participation, scheduling, and long-term development. Transformed ad hoc scheduling into a formal multi-year exercise support plan.
- Lead planner for CYBER FLAG 15 and CYBER GUARD 15 exercises; scenario design, Command and Control construct, network/target design, logistics for 118 participants, and development of training objectives. CYBER FLAG 15 is a USCYBERCOM led force-on-force cyberspace training exercise fusing attack and defense across a full spectrum of military operations. CYBER FLAG 15 was the first example of a headquarters element and supporting teams operating distributed across the nation. Provided technical information technology expertise regarding network vulnerabilities and cyberspace threats. These exercises include the design and exploitation of full enterprise Windows environments (up to regional and national networks) as well as attack platforms and replication of public Internet services.
- Developed a repeatable exercise support package for MAWTS-1 for Weapons Tactics Instructor Course (WTI); integrating the first Cyberspace Electronic

  Warfare Coordination Cell (CEWCC) into student events and provided technical guidance for scenario development and integration with kinetic operations. Repeated iterations of the exercise throughout 2014-2015 showcased a safe means

LINKS

- https://github.com/tomberek
- https://keybase.io/tomberek
- https://tomberek.info/resume/index.html

TECHNOLOGY

Virtualization . . . . .6 years
Cloud Development . . . . . .4 years
Programming . . . . .10 years
Haskell . . . . .6 years
Java Virtual Machine . . . .6 years
DevOps . . . . .4 years
Linux Administration . . . 11 years
Electronic Warfare . . . . . . .6 years

CLEARANCE AND CERTIFICATIONS

Current Top Secret Clearance
TS//SCI with CI Polygraph

CISSP — 2015

CEH — 2013

Mission Commander — 2015
Offensive Cyberspace Operations

EDUCATION

University of California Berkeley — 2005
B.S in Mechanical Engineering
Minor: Electrical Engineering and Computer Science
Berkeley, CA

Naval Aviation Flight Training — 2009
Designated as a Naval Flight Officer — Pensacola, FL

of integrating cyberspace operations.

- Adopted an architectural framework to create a structured battlespace management methodology encompassing non-kinetics; Electronic Warfare, Cyberspace Operations, and the rest of Information Operations. The layered model allows for abstraction, separation of concerns, de-confliction, and common terminology used to sub-divide the information domain. This model was used during exercises to provide feedback for cyberspace doctrine development.

Senior Software Engineer   2014 — Present (part time)
OpenTable Inc.   San Francisco, CA (remote)

- Part-time contractor for Copilot Labs Inc. (getcopilot.com) until acquisition by OpenTable Inc. and renewed contract to perform DevOps and developer functions: maintain servers and back-end infrastructure, plan and execute major upgrades and migrations, design a continuous integration development and production environment, develop tools and utilities for administrators, and establish a security program.
- Transitioned standalone servers into a scalable and fault-tolerant cluster architecture utilizing Amazon Web Services including; EC2, S3, RDS, IAM, Elastic Beanstalk, EMR, ElastiCache, CloudWatch, and Route 53. Primary technologies used: Python, Django, MySQL, SQLite, Apache, nginx, Docker, Jenkins, git/Github, and a liberal abuse of shell scripting.
- Improved the workflow and testing capabilities for developers and designers. Automated scaling for future expansion and business growth.
- Performed security testing and a basic security audit of systems. Resolved critical vulnerabilities such as Heartbleed and ShellShock within 24 hours of public disclosure.
- Sought this position after years of participating in Open Source programming and maintaining development skills during military service. This provided an initial opportunity to work in a small startup setting until acquisition where now the goal is to integrate with a larger organization.

Software Contractor   2013
Various clients   eLance.com

- Produced Scala and Haskell libraries and provided technical instruction as required by clients on an hourly basis. Produced required products on timeline and meeting client specification. For example:
  - Regular expression demonstration. http://RegexPlanet.com/advanced/haskell/index.html
  - SEG-Y geophysical binary data parser. https://github.com/Toeplitz/haskell
- Critical learning point was the importance of formal project specification and clear communication with clients to develop requirements. Several projects grew in scope, consuming additional time and attention.

Electronic Warfare Officer   2005 — 2013
Marine Tactical Electronic Warfare Squadron 4   Cherry Point, NC

- Flew over 900 hours in the EA-6B Prowler as an Electronic Counter-Measures Officer with 70 combat sorties for 291.1 combat hours with multiple deployments to Operation Enduring Freedom.
- After basic trainig and Initially assigned to the Operations Department as a scheduler and quickly becoming the Subject Matter Expert for multiple ICAP III weapon systems and support systems. Familiarity with the systems and tactics led to an early assignment as the Electronic Warfare Department Head for Exercise Red Flag Alaska and deployment to MCAS Iwakuni, Japan. Simultaneously held collateral billets as Tactics Officer, Operational Security Officer, Classified Material Control Center Custodian, and Joint Mission Planning System Officer.
- Created a novel electronic attack technique applicable to several target sets and relying on an optimizing algorithm. Confirmed the tactic in coordination with

Johns Hopkins University Jammer Technique Optimization Team and employed it in combat operations. Documented and corrected long-standing deficiencies in the tactical employment of the EA-6B by optimizing for the delivery of jamming power to a target. The opportunities to solve technical and tactical challenges in an operational squadron and in collaboration with experts were rewarding professional experiences.

Electronic Countermeasures Officer Training   2010
EA-6B NATOPS qualified   Whidbey Island, WA

S.E.R.E. Training   2010
Survival, Escape, Resistance, and Evasion

Expeditionary Warfare School   2014
Military planning methodology and doctrine   Remote

Misc
- Fluent Hungarian
- Brew homemade fruit wine
- Homemade sourdough bread
- Martial arts: Judo/Jiu-Jitsu

Technical Solutions Specialist   2005
Google Inc.   Mountain View, CA

- Identified and prevented fraud in Google AdSense and AdWords by both automated tools and alert systems. Investigated flagged incidents for fraudulent behavior.
- Leveraged existing machine learning algorithms such as self-organizing maps and classifying neural networks to discover novel click-fraud patterns of behavior. Revealed and terminated several multi-million dollar accounts engaged in click duplication and traffic replication.
- This position required a change of perspectives and thinking like a malicious actor; designing automated processes that can be utilized at a large scale.

SKILLS

IT Project Management

- Planned two critical infrastructure migrations while minimizing business impact and downtime.
- Operated budget and planned the participation of up to 118 personnel in multiple locations for large exercises.
- Developed logistics to maintain technical support to tactical operations during movements of personnel and equipment.
- Experienced with Microsoft Project, SharePoint, and version control software (git, SVN, Darcs) for project management.

Programming

- Maintained a Haskell graph algorithm library and web-framework extension enabling FastCGI. Contributed to web-framework security. https://www.fpcomplete.com/user/tomberek/adding-security-to-mflow. Continuing to contribute to the development of a isomorphic web framework in Haskell.
- Creating a Haskell library for opportunistic normalization for dataflows and computations.
- Developed popular Python plugin in 2010, "Learn Mode", for Anki http://ankisrs.net which was integrated into subsequent versions.
- Created customized database and frontend for a department of the U.S. Embassy in Hungary.
- Currently bootstrapping a Forth variant from assembly to the Mill CPU, a statically scheduled, wide issue, in-order architecture which uses a belt of temporary values rather than registers as a computing model.

System Administration and DevOps

- Used Linux commercially, on desktop, and personal servers since 2001. Tried RedHat, Ubuntu, Arch, (and Plan 9!) before becoming involved with NixOS due to its purely functional philosophy regarding configuration, upgrades, deterministic builds, and a mix of binary and source distribution. Currently maintain 15 packages with 100% build status.
- Supported experimental, development, continuous integration, and production environments for Copilot Labs Inc. and subsequently for OpenTable Inc.
- Experienced with virtualization, including VMWare, vSphere, XEN, QEMU, as well as Amazon Web Services (AWS) and many public and private cloud platforms.
- Maintain a honeypot in order to investigate current trends in remote exploitation.