

# Jacob Holtom

ELECTRICAL ENGINEER · SYSTEMS ADMINISTRATOR

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## Work Experience

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### Artemis Inc

Spanish Fork, Utah

#### RADAR ENGINEERING INTERN

Apr 2019 - PRESENT

- Evaluate and develop autofocus algorithms for Stripmap SAR using Time-Domain Backprojection
- Explore and develop combined radar and communications waveforms
- Develop machine learning models for SIGINT
- Develop direction finding algorithms for co-operate use on Software Defined Radar

### BYU Spacecraft Group

Provo, Utah

#### LEAD COMMUNICATIONS ENGINEER

Apr 2016 - Apr 2019

- Oversee twin satellites will fly in Sept 2019
- Design an end-to-end satellite communications system within technical constraints
- Lead RF engineering work including the design of dish and on-board antennas and amplifier systems
- Develop custom ground station system that utilizes an Ettus USRP and GNURadio

### L-3 Communication Systems West

Salt Lake City, Utah

#### RF ENGINEER

Jan 2018 - Sep 2018

- Design RF hardware for mission critical systems
- Test and debug RF hardware
- Work in team and follow standard engineering process

### BYU Computer Aided Engineering Design and Manufacturing

Provo, Utah

#### ASSISTANT SYSTEMS ADMINISTRATOR

Nov 2015 - Jan 2018

- Developed Linux infrastructure to maintain storage, enable authentication and enhance the user experience
- Migrated to a new LDAP cluster and schema using SaltStack
- Implemented MIT Kerberos in the environment using SaltStack

### SolvereOne and HouseCall IT

Dulles, Virginia and Washington D.C.

#### SYSTEMS ADMINISTRATOR

Jun 2013 - Oct 2015

- Maintained and designed secure network deployments
- Deployed and maintained Windows user and application systems
- Managed Linux administration

## Education

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### ASU (Arizona State University)

Tempe, Arizona

#### M.S. IN ELECTRICAL ENGINEERING

Aug 2019 - PRESENT

- Pursuing thesis based masters in Electrical Engineering
- Focus on Electromagnetics, RADAR, Communications and satellite systems

### BYU (Brigham Young University)

Provo, Utah

#### B.S. IN ELECTRICAL ENGINEERING

Sep 2015 - Apr 2019

- Math Minor

### TJHSST (Thomas Jefferson High School for Science and Technology)

Alexandria, Virginia

#### HIGH SCHOOL ADVANCED STUDIES DIPLOMA

Sep 2011 - Jun 2015

- Designed NFC System for Senior Research Project
- Ranked number one high school in the United States

## Projects

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### CCSDS Kernel Driver

#### LINUX ADDRESS FAMILY

Jul 2017

- Designed and implemented Linux kernel address family that adds CCSDS Space Packet Protocol support

## Publications

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- 2019    **Passive CubeSats for remote inspection of space vehicles**, Journal of Applied Remote Sensing
- 2018    **Femtosaurs: Elegant Flight Telemetry for Model Rockets**, International Telemetry Conference

*Cubesats and  
Nanosats for  
Remote Sensing  
Glendale, Arizona*

## Competencies

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- Active Directory, LDAP, Kerberos, Cisco IOS, Sophos UTM, Python, Haskell, C, C++, Embedded Development, Windows Server 2008 -2012 R2, CentOS/Ubuntu/Gentoo/RedHat Linux, BSD, Ansys HFSS, Matlab, Mathematica, VMWare vSphere, VMWare View, Microsoft Office 365, Nagios, Apache, NGINX, MySQL, PostgreSQL, HTML5, JavaScript, CSS, Java, Windows XP - 10, ZFS, SaltStack, LTspice, Autodesk EAGLE, Amateur Radio, FCC Licensing, RF Systems, Modulation, Packetization and Framing, GNURadio, Ettus USRP, Nuand BladeRF, RF Analysis, Mentor Graphics Expedition, RF PCB Layout, RF Testing Equipment (Spectrum, Network Analyzers, etc.), National Instruments AWR, Keysight ADS