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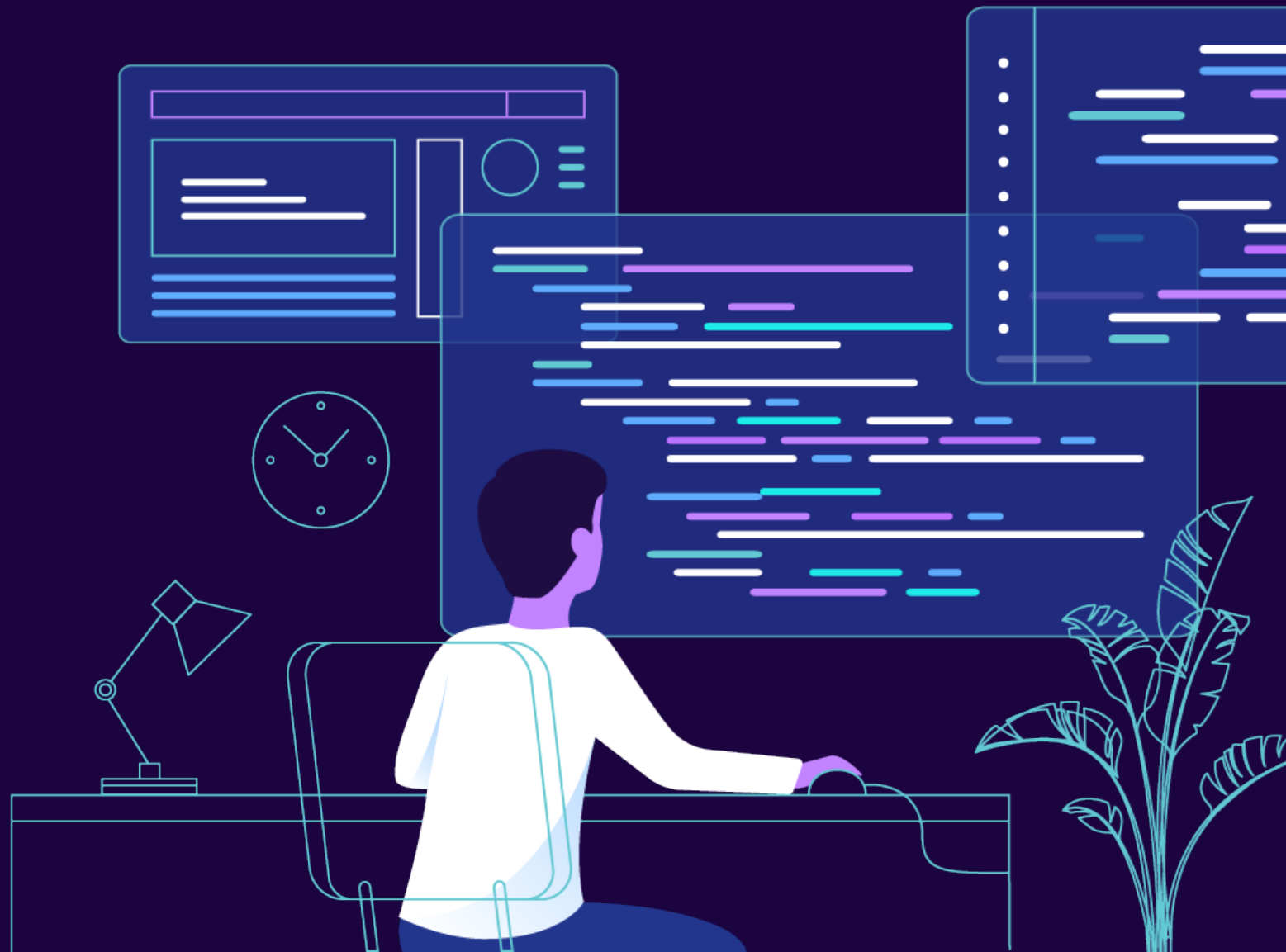
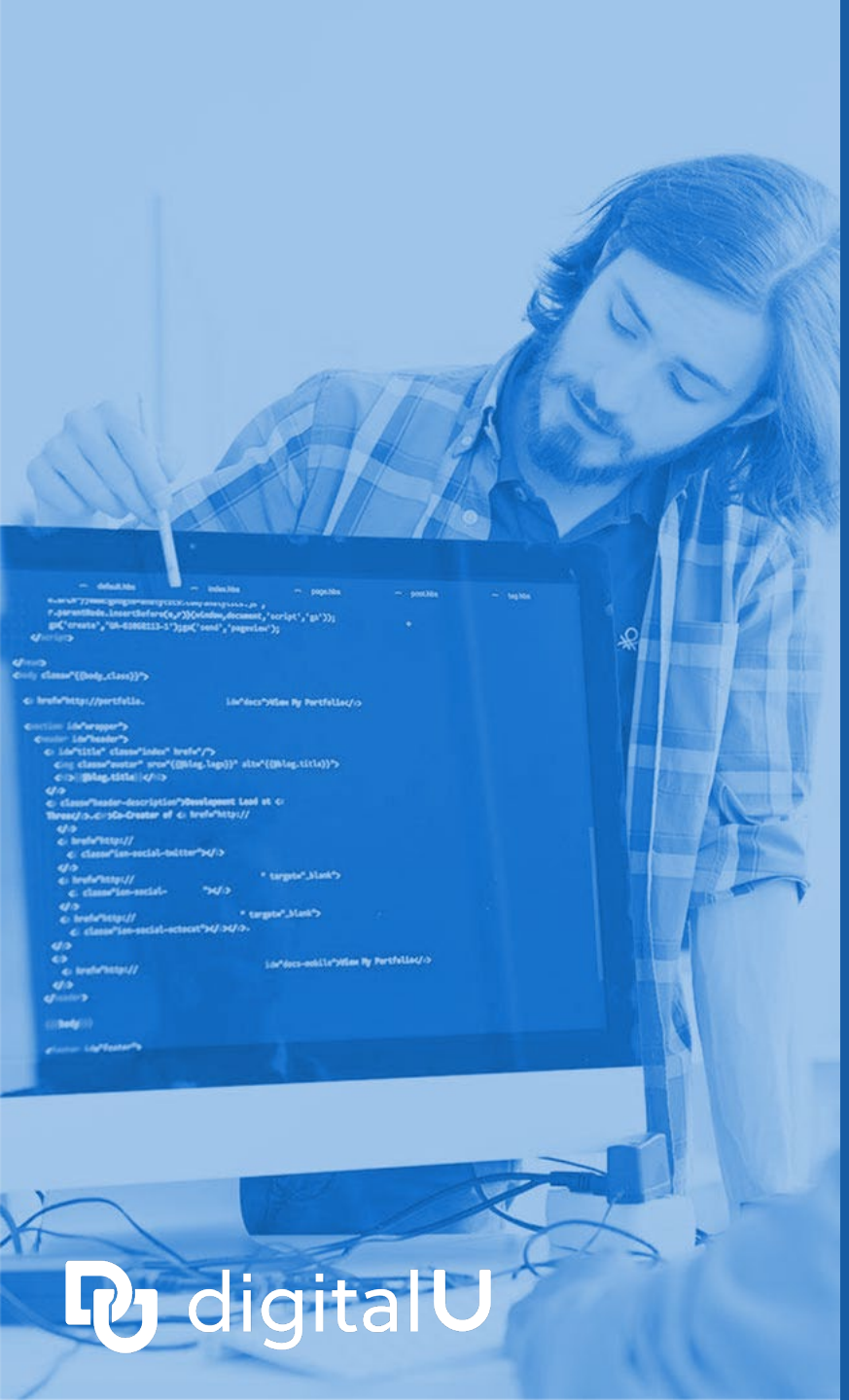
Digital University Overview

Transforming the way the Department of Defense educates digital talent





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#DigitalAF

"Victory in combat will depend on us becoming a digital Air Force."

Acting SECAF Matthew Donovan, July 2019

Problem Statement

- The Department of the Air Force (DAF) is **falling behind peer adversaries**, and needs to **build technical competence to be a lethal fighting force**
- We lack the ability to **assess, qualify, and track digital competency** in order to develop technical competence
- **Define a path** for Airmen and Guardians to become digital experts
- Currently have **no economies of scale for digital training** and/or purchasing power across the enterprise

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The Solution

A unified effort to harness the best training approaches and content from Industry, adapt for the needs of the DAF, and provide a clear, auditable path forward for Airmen and Guardians to gain the technical skills and apply them successfully to warfighting needs.

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If it's good enough for Google and SpaceX…

Silicon valley uses the same digital platforms (as a service) to train the work force and recruit talent.

It's time to stop imagining the jobs the of future and developing outdated content; the jobs have been imagined, the content has been created.

The commercial world relies on this and so can we.

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coursera

udemy

datacamp

CloudAcademy

UDACITY

HackEDU

Return On Investment

- For every **$1 spent on digital training companies gain $30** in productivity
- Participants learn nearly 5x more material using best in class digital platforms without increasing training time
- **72% of top IT organizations utilize digital learning to help increase their competitive edge** by giving the opportunity to maintain relevant skills
- Companies that provide digital learning achieve an 18% increase in employee engagement
- **IBM saved $200M after switching to e -learning**

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Goals For Digital University

Create technical experts

Give Airmen and Guardians the deep technical knowledge needed to fill roles critical to delivering mission capabilities. This means creating experts in development, design, data science, and all other fields within the digital realm.

Drive digital literacy

Create a baseline of digital understanding among all Airmen and Guardians. This means facilitating and driving the transformation to a truly digital workforce from the ground up.

The Strategy

Democratize access to world class digital education

- Make best in class digital training available to all Airmen and Guardians at low cost
- Promote cross-functional self development and growth beyond job codes
- Learn the most relevant technical skills at a commercial pace

Gamify the experience

- Software factories and other orgs design badges to signal needed capes
- Tie badges to incentives: unlock desired content, recruiting, bonuses
- Track how badges translate into actions, performance, and promotions

Operationalize the Results

- Digital skills inventory: What skill mix does my squadron need to be effective?
- Internal recruiting: Earn this badge to be considered for a role at Kessel Run.
- Rapid mission need: General Raymond tsunami use case

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CAREER PATHS
(For Kyle)
UX Designer
Cyber Engineer
DevSecOps Engineer

SKILLS
(For Matt)
UX Design
Node.js
AWS

FORCE MULTIPLIERS
(For Allen)
User Centered Design
Product Management
Cloud Computing

ENGAGE
Find Learners where they are, Inspire and engage them to pursue learning

GUIDE
Lay out guided paths based on user goals defined by Industry and Academia

LEARN
Leverage industry partners to provide value-added, relevant and up-to-date training content

MEASURE
Measure usage, benefits, careers advancements and optimize with continuous improvement

OPTIMIZE
Continuous improvement based on qualitative and quantitative feedback.

35,000 Airmen and Guardians. Expand to 60,000.

SUPPORT STRUCTURE:
Cyber CFMs, Software Factories, AETC, Air Force Futures and SAF/CN to ensure the widest user focused approach.

JAIC
KESSELRUN
WORKERA
Microsoft
coursera
DataCamp
Udemy
UDACITY
HackEDU
WORKERA
OpenBadges
Google
aws

SCHOOL STRUCTURE

DU curriculum is is built and updated by a consortium of experts from across the DoD, Industry, and Academia

JOHN DOE

Expert CV Engineer from Google

Advises

AI & ML ENGINEERING

DATA SCIENCE

SOFTWARE DEVELOPMENT

DEVSECOPS

AI & ML ENGINEERING

DESIGN & USER EXPERIENCE

BUSINESS

CYBER SECURITY

CLOUD COMPUTING

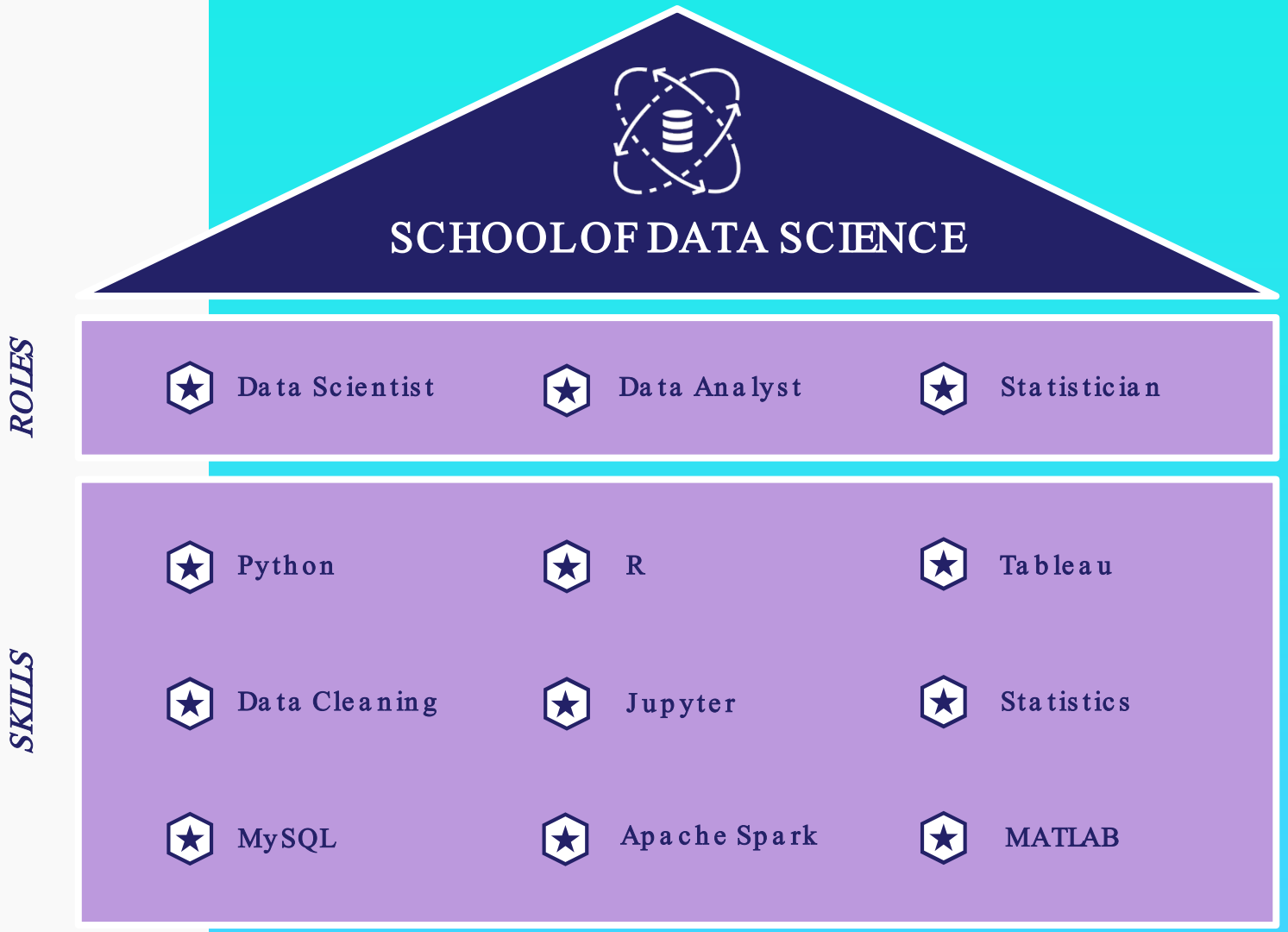
DATA ENGINEER & ARCHITECT

LEARNING MADE EASY

Roles & skills are pathways that tell you exactly what you need to learn, and provide you with the best resources to do it.

ROLES – Collections of skills needed to learn a certain job role

SKILLS – Specific languages, tools, or technical knowledge areas

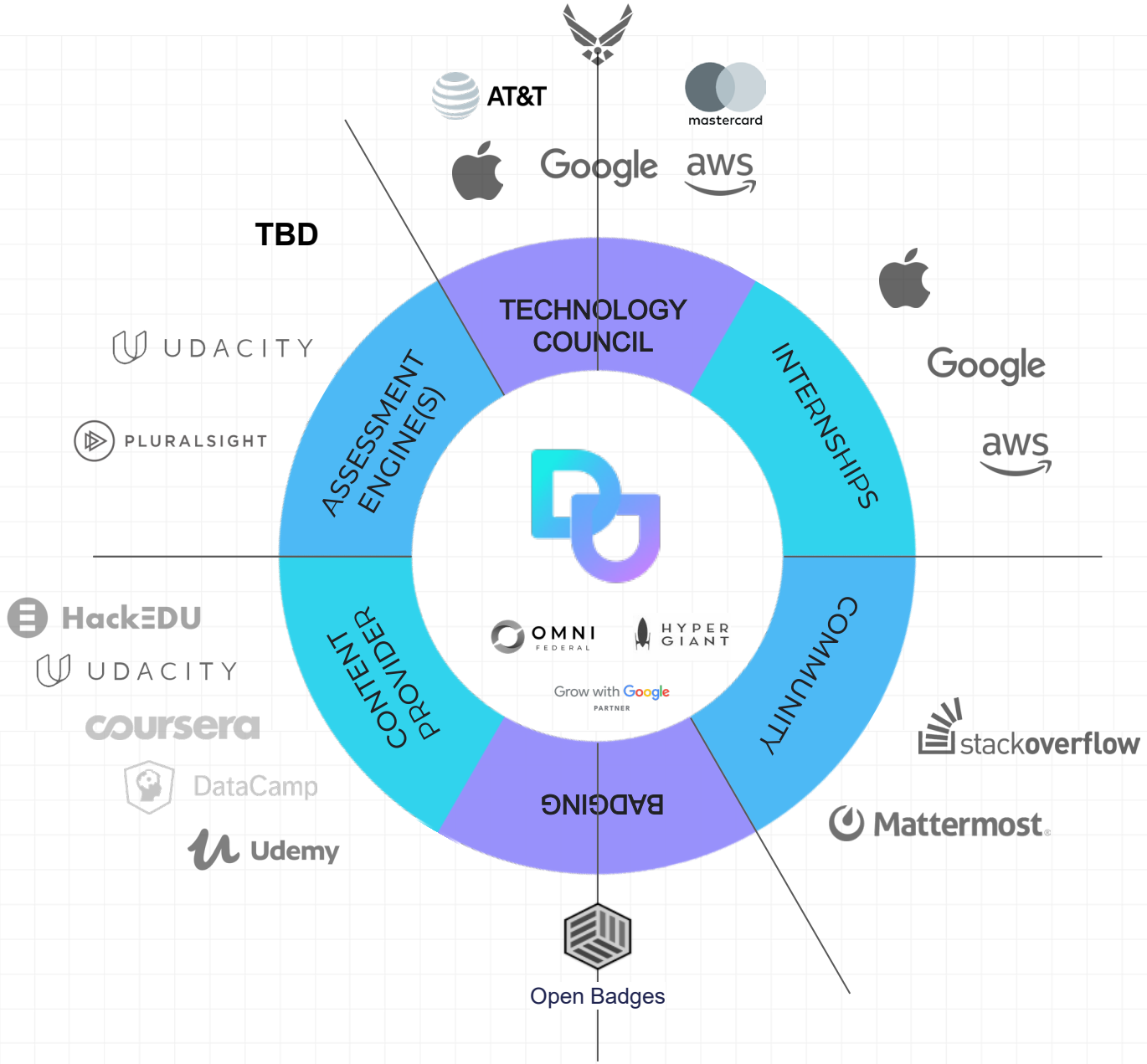


Digital U Consortium

Strategic partnerships bring together the best from Industry and Military to create the next generation learning platform to create Digital Talent for the DAF.

Industry Consortium in intended to help the DAF with

- Significant Cost Savings
- Enable our airmen to maintain the edge
- Closer alignment with tech industry



DigitalU.af.mil

Academic Consortium

Massachusetts Institute of Technology

Focused on Advancing AI

- Hands on Challenges w/ AF orgs to solve msn need
- Brings best in AI/ML/DS

UNIVERSITY of MARYLAND

Bridging the SW Factory Gaps

- Targeting 5 levels of mastery for 10 Cyber careers
- Aligning Industry success to AF needs

Focus on Cloud engineers

- Instructor -led lessons by AWS experts
- AWS Solutions Architect Cert
- AWS Cloud Practitioner Cert

stronger Grow with Google

Partnership with adv UX & DevSecOps

- Industry leading UI/UX curriculum
- Focused on tackling business needs
- Proven mobile DevSecOps pathways

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Level Up With Badges

Space Camp Medic Badge

- Course One
- Course Two
- Exam Score X
- In-Residence

Unlocks: The interview

A9 Ops Research Special Topic Badge

- Python
- Data Science 101
- Special courses 1-2

Unlocks: Preference of special research master's topic.

Design Thinking Badge

- UX Fundamentals and Design
- Prototyping
- Post launch analysis
- Capstone: UX Portfolio design

Unlocks: Nexus Design Bootcamp and Darden Design Thinking

Why Badges? They're a lot of fun! And…

- Badges provide a market signal for needed capabilities, and can be rapidly adapted
- Provides a data-driven experiment and pattern recognition opportunity to drive future KSAs

"If you're not constantly leveling up your digital skills you're just getting farther behind."

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Operationalizing Digital U

General Raymond Tsunami Power Plant Disaster

A tsunami has hit the nuclear reactors in Japan. We need a way to quickly assess the damage and prioritize resources. Google says we need three Python developers.

What happened: Lots of work to email and call for 3 Airmen.

With DigU: “I just did a search. These 3000 Airmen completed the Python training; these 10 scored best; these 3 are closest to Japan. But...if I may, Sir, these 20 Airmen earned the badge for the a capability that merges Python, data science, and modeling. We’d recommend you select one of them for this problem.”

Kessel Run Needs a Platform Engineer

Everyone wants to work for Kessel Run and there are only so many slots. Often it is hard to determine who is available. Talent marketplace is a start, but how do we signal what skills are needed and help Airmen and Guardians prepare?

Kessel Run’s Platform Engineer badge shows exactly the competencies one must prove through Digital U to get the interview. And since each course has a practical exam with a virtual sandbox Kessel Run knows the Airman and Guardians can use their skills practically. Airmen and Guardians see their path to reach the goal.

Senior Leaders See a Concerning Digital Skills Inventory Gap

Air Force launches a bonus bounty program to fill critical skills gaps. The first 100 Airmen to score over 90 on the AI skills IQ will gain access to the Udacity AI nanodegree program. Upon completion, Airmen will receive a bonus and top performers will be invited to join the MIT AI accelerator.

EITaaS brings commercial network capabilities to the DoD and forces reskilling of the comm squadrons. DigU provides rapid assessment, recommendations, and training for new roles.

“Every Airman or Guardian a Digital Airman or Guardian.”

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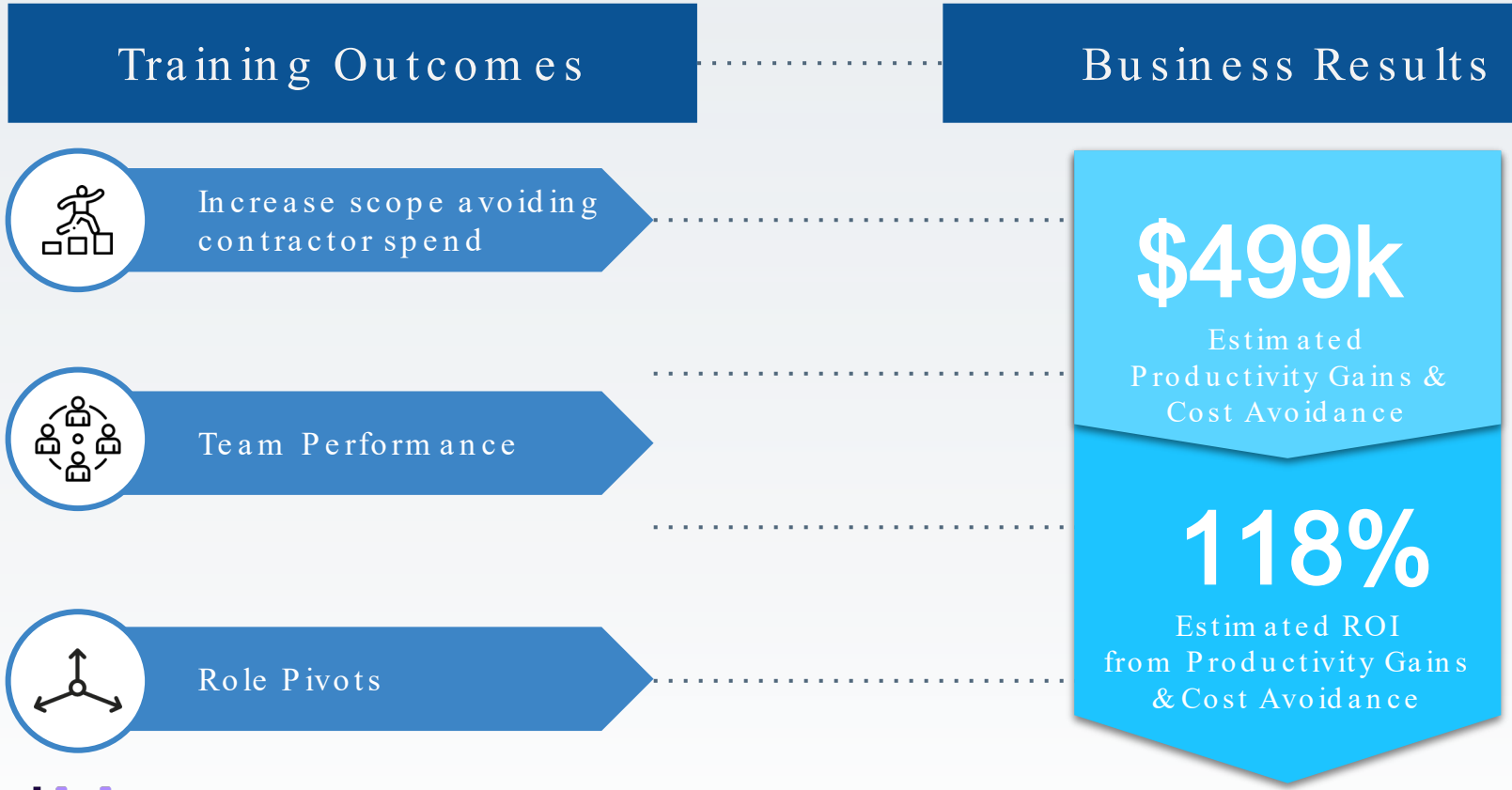
Training Outcomes Drive Results

As learners achieve training outcomes around performance and teamwork, results and value accrue to US Air Force



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Driving Mission Efficiency

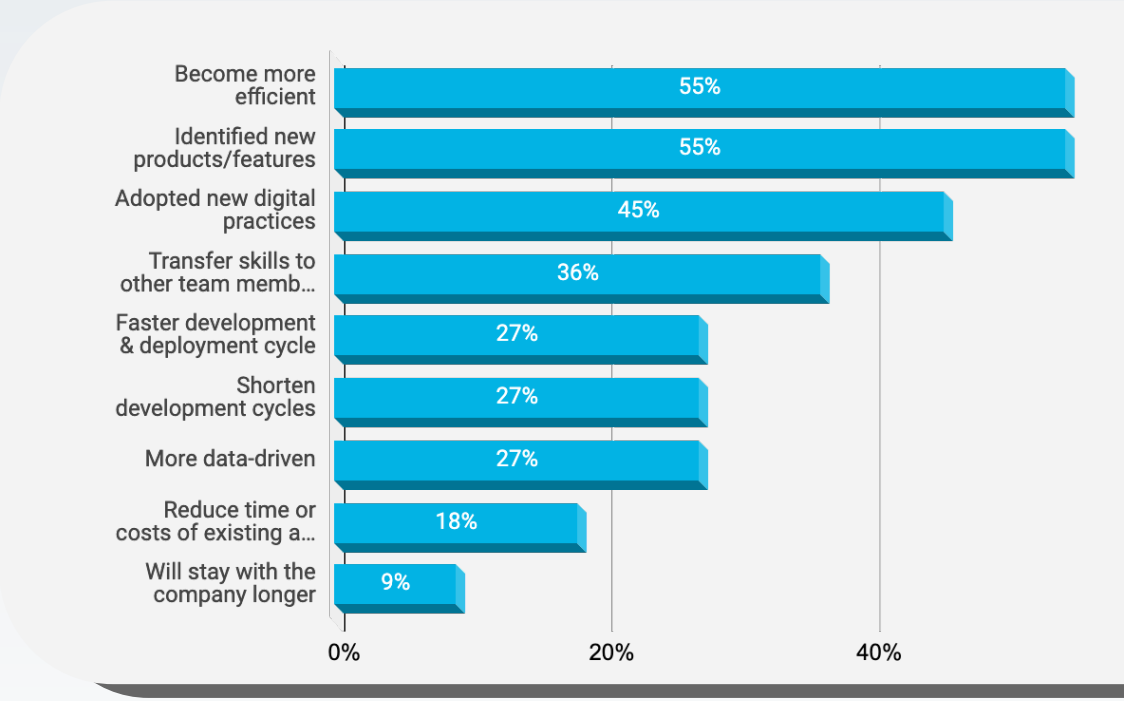
Learners at US Air Force reported **becoming more efficient and identifying new products/features** as some of the top positive impacts of the Nanodegree

Identifying errors and driving contributions:

"My team was working on some research and because I had literally just completed the segment on recurrent neural networks, I was able to identify an error in our implementation that was previously unnoticed. In my day to day work, the nanodegree has really helped me dive deep into our research work and question critical assumptions by our researchers. The programming projects has also allowed me to be a better individual contributor across three research efforts."

Improved collaboration leads to increased efficiency:

"In collaborating with teams in a cloud environment it allowed me to troubleshoot issues without having to wait hours for someone to help."



83%

of graduates report positive impact on career progression*

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2021 Report
US Air Force & Udacity

Goal of User Experience Monitoring

The goal of UEM is to implement a common set of tools within the enterprise that can be used to track and report on a common set of metrics to understand the health and user value of our Air Force applications and enterprise services.

Why

Assuming UX needs impares cost, schedule and performance

Across the enterprise, PMs, POs, and developers rarely understand the user journey throughout their systems. We need to showcase meaningful data for teams to manage product direction, requirements, and overall product user experience.

UEM Capabilities Status

Prior	May 2022	July - Aug 2022	Beyond
UEM in Dev (DU)	UEM in Prod (DU)	Scale Externally	Realize and Scale
• Qualtrics Completed - Oct 2021 • Completed Matomo and Open Search/ELK for DU in Dev environment	• Matomo and ELK and Open Search in CloudOne • Aligned with BESPIN Design Studio • Implemented for Digital University • Funded second effort for end point monitoring	• Discovery of external needs • Define and Develop onboarding process and financial models • Assess other apps for integration • Assess Integrated reporting process across Matomo, Kibana and any Eitaas Dashboard integration • Recommend plan for enterprise survey licensing	• Roll out to other applications • Incorporate Aternity • Address Qualtrics replacement • Iterate and improve onboarding process • Ongoing UX metrics alignment • A1 / KR / Space Force / Weather organization rollout

UEM Case Study

Digital U continues to refine its UX by understanding its users

- Through UEM, we're able to gather regular feedback on how users feel about our product
- We're able to get a picture of how people are using DU
- We're able to continuously apply this data to clean up the experience of DU and identify new opportunities

Where We Are Today

58k+
Airmen and Guardians on Digital U today

200+
Graduates in DevSecOps, Data Science, Cyber, etc.

6
Top commercial content providers and counting

30k
Training courses available on-demand

400+
New Users added to Digital U per week

1
Service branch has funded DU to scale service-wide so far

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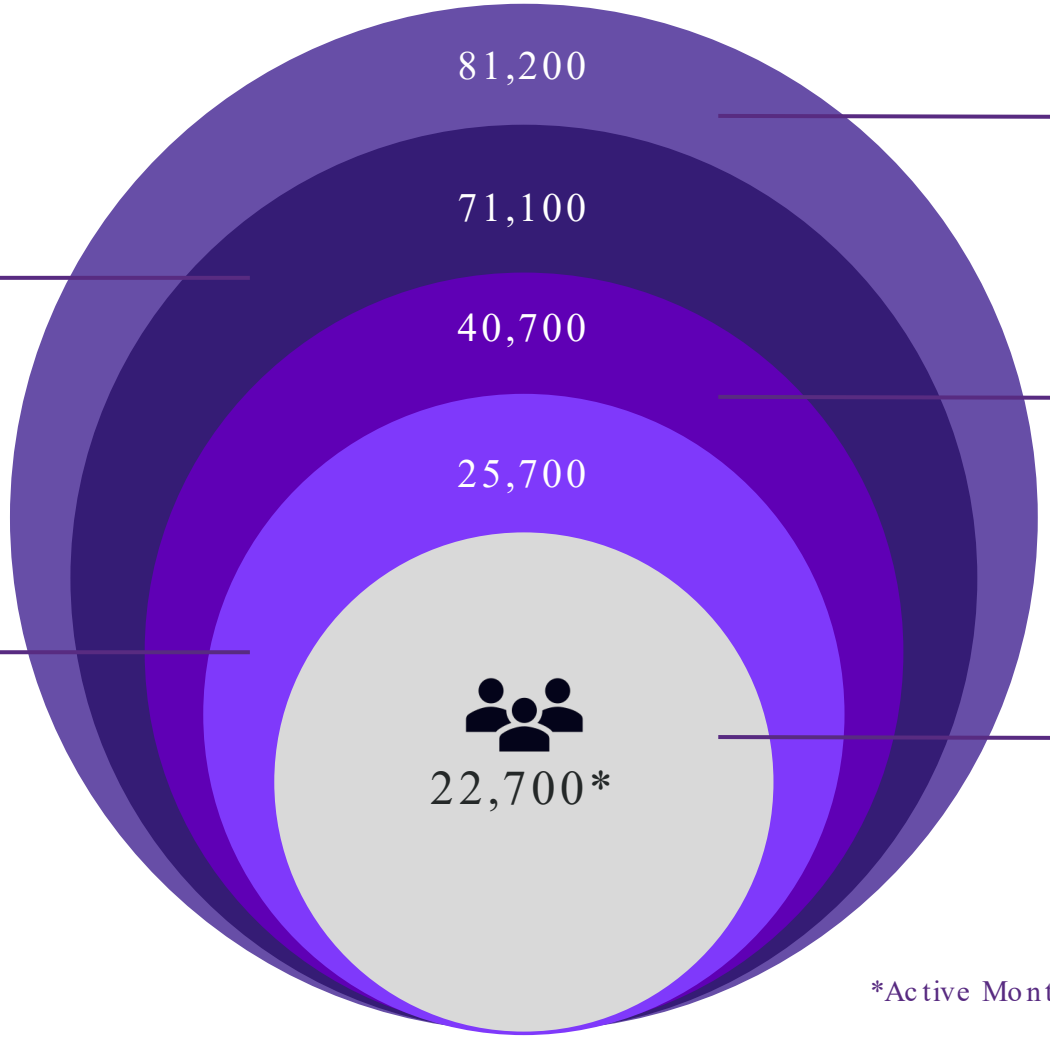
Projected Demand

New OSD & Academia Prospects
- 30,400 projected OSD users
- Projected April & May onboarding

New Navy Prospects
- 3,000 projected Navy users
- Projected June onboarding



*Active Monthly Users

New Army Prospects
- 10,100 projected Army users
- Projected June onboarding

New USAF & USSF Prospects
- 15,000 projected USAF & USSF increase in users
- Projected April to June onboarding

Current Platform Size
- Over 22,000 active users comprised of USAF, USSF and JAIC

CONTACT

Mr. James Crocker
BESPIN/AFLCMC
James.Crocker.5@teambespin.us
828-231-2549

Mr. Gabriel Bermeo
BESPIN/DU
gabriel@omnifederal.com
347-304-0391

Sign Up For Digital U: *https://digitalu.af.mil*

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