



## PLATFORMS & SKILLS

### EMERGING TECH: VR/AR/XR

Unity, UE5, 8<sup>th</sup> Wall, Geofencing, Hololens, Kinect, Volumetric, TEMI

### DATA: SQL Server, ETL, data

modeling, T-SQL, stored procedures, distributed queries, geospatial, time series

### WORKFORCE: Discord, OBS, Live

Video skills for education and team management

### CREATIVE: Website design,

Photoshop, Premiere, Reaper, strong creative writing and copy

### WEB: .NET, Visual Studio,

HTML5/CSS, Javascript, C#, Azure, IIS

### DATA VISUALIZATION: D3.js,

ArcGIS, KML, Google Maps/Earth, MapBox, Tableau, Scientific Visualization, VR

Holistic understanding of data, data modeling, and databases including relational, multi-dimensional, and columnar designs. Strong set-based reasoning and ability to physically engineer SQL Server.

Social science training with appreciation for interpreting human behavior through data models. Specialist knowledge of archaeological systems.

Demonstrable ability to lead, inspire, and build culturally and technologically diverse high-performance teams and online communities.

Strong technical writing and presentation skills with ability to present complex concepts to diverse audiences. Excellent creative white boarding.

Excellent audio production skills.

# Ash Black

TECHNOLOGY. INNOVATION. EDUCATION.

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Highly creative **technologist** and **educator** with advanced applications development, data science, VR/AR, and student-engagement skills seeks breakout **leadership opportunity** to galvanize Higher Education communities into spirited high-tech experiential learning workforces capable of facing the demands of this decade.

- **Founder** of Tech Core, a revenue-positive **student-engagement** based software development shop fostering full stack skills for graduate/undergraduate coders, creatives, and entrepreneurs while expanding institutional research capabilities in Web, data, and emerging tech (techcore.arizona.edu).
- **Instructor** in entrepreneurship with ample international, start-up, and consulting experience specializing in motivational teaching, **prototyping**, and digital literacy.
- **Programmer** and specialist in rapid prototyping with knowledge in Web (HTML5/CSS/Javascript/.Net), Data (SQL Server, Visualization), Emerging Tech (AR/VR/360), and Creative (Web Design, video, UI/UX) with ability to build **first-generation applications** from scratch.
- **Emerging Tech** specialist in AR, VR, and Metaverse-ready toolkits with data science, modeling, and **scientific visualization** capabilities for Web and VR (youtube.com/watch?v=xg3q4qXYDMg).
- **Social science** background with ability to structure very large data models with an understanding of geospatial statistics, algorithm development, and the scientific principles of data exploration and analysis. Veteran troubleshooting skills.

## EMPLOYMENT

### Executive Director of Tech Core

University of Arizona, Eller College of Management (2019 – Present)

- Founded innovative higher education experiential learning program engaging 300+ students annually with responsibility for strategic vision, budgets, funding, project management, application architecture, hiring, social media, and brand.
- Invented massively popular Summer Internship program galvanizing ~100 grads/undergrads annually into a highly motivated high tech remote/in-person, 24/7, local/global workforce rooted in *Discord*.
- Authored original HTML/C#/.NET and Unity codebases for training, and supervised continuous talent and stack evolution.
- Served on the Dean's Digital Innovation Initiative to introduce *Tableau*, *Excel*, *Adobe Creative Suite*, 3D Printing, and social media campaign management experiences into the classroom. (techcore.arizona.edu/XRForEducation/).

### Data Scientist

University of Arizona, Office of Global Initiatives (2017 – 2018)

- Authored data visualization platform unifying university research, travel, visiting scholars, international students, global alumni, and study abroad data into a single mapping application. Grant writing.

### Director of Technology

University of Arizona, Office of Global Initiatives (2013 – 2016)

- Engineered enterprise workflow automations integrating Shibboleth, CRM, project management, SaaS, Web and data warehousing operations. Managed IT Department and participated in multiple institutional task forces.

## EMPLOYMENT

### **SQL Server Engineer** Regional OneSource, Phoenix Arizona (2009 – 2012)

- Engineered multi-dimensional data modeling software in SQL Server and VB.NET on a high-performance instance to automate the continuous production of a 3 TB structured model of US economic activity.
- Implemented economic algorithms from scientific white paper for solving the Class NP-Hard computer science challenge of imputing all suppressed values in the BLS QCEW report with low variance across four dimensions.

### **Consultant** (2001 – 2008)

- Constructed large data warehouse with Web UI, Regional OneSource, New York Public Libraries.
- Delivered a C#.NET/SQL Server application for on-the-fly imputation of store-level pricing of individual items for Circle K Corporation.
- Authored enterprise application for management and synchronization of distributed SQL Servers, customer relations portal, and a suite of data aggregation, transformation, and publishing tools.
- Engineered high-volume email marketing engines and first-generation retail marketing services.

### **Director of Technology** Netscool.com, Jakarta Indonesia (1999 – 2000)

- Directed an IT training center, imparting certification and Web Development skills to over 500 students in a developing market at the height of the dot com boom. Executive responsibilities, infrastructure, brand, and curriculum development.

**Prior** Owner of ashblack co., Web design and content development for public and private sector clients including the New Mexico Departments of Tourism, and Education (1998 – 1999). Webmaster at Studio X, Santa Fe, New Mexico (1997). Technical Builder at Free Range Media, Seattle, Washington (1995 – 96).

## TEACHING

Designed and teach innovative Masters course in entrepreneurship emphasizing individualized technology coaching including 3D printing, rapid prototyping, video production, Web design, and VR (2019 to Present).

Designed and teach undergraduate course in entrepreneurship emphasizing prototyping, ideation, public speaking, videography, and critical analysis of contemporary technology (2019 to Present).

**Mentor-in-Residence** McGuire Center for Entrepreneurship, University of Arizona (2019 to Present).

## EDUCATION

**Master of Science, Archaeological Information Systems**, with distinction – The University of York, 2012.

**Bachelor of Arts, Anthropology, GIS**, summa cum laude – The University of Arizona, 2010.

## PRESENTATIONS, PUBLICATIONS, PRO BONO, SERVICE

2021 *Eller Faculty Technology and Innovation Team*, contributor

2020 *Eller Level-Up*, stewarded the creation of co-curricular tech workshop program

2018 *University of Arizona VR Summit*, moderator

2017 Chair of the *Dean's IT Council*, University of Arizona

2017 *Tenwest*, presenter, *Mapping Collaboration Networks through Structured Data*

2015 *Society for American Archaeology*, discussant and presenter: Digital Archaeologies group

2014 *Nature*, *The timing and spatiotemporal patterning of Neanderthal disappearance*, mapping acknowledgements

2012 *Society for American Archaeology*, paper, *Temporal Mapping*

2007-2008 *International Friends of Tucson*, authored PHP/MySQL Web application for matching international students with host families based on mutual interest and user criteria