ALEXANDER S HORN

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EMPLOYMENT

Principal Software Engineer & Analytics Architect — **ShopperTrak/Tyco/Johnson Controls** — **Spring 2015-Current**

- Refactored mobile analytics platform into a robust horizontally scalable micro-services architecture in AWS. Data processing that took days now takes hours.
- Added Prod/Stage/Dev tiers, feature-branch workflow, and continuous integration.
- Lead our team's architecture and sprints, as well as hardware upgrades and new sensor evaluation.
- Contributed to Predictive Traffic Modelling, Video Person Tracking, Retail Dwell Personae

Programmer / Analyst III
Future Internet Architecture — **UCLA REMAP** — **Spring 2011 - 2015**

- Research for NSF 'Content Centric' Future Internet Architectures: named-data.net & Xerox Parc's ccnx.org
- Also contributed to many civic computing projects including interactive bus benches, public sound & light sculpture, geotagged mobile walking tours, Google Glass app prototypes, and much more (remap.ucla.edu)

Senior Interactive Engineer — **Agency.com** — **Summer 2008 – Spring 2011**

- Interactive development via ActionScript/HTML5/JS/CSS3 from 2D design comps (for HP, Nike, Apple)
- Published 2 iOS Applications (Objective C) (HP)

Computer Systems Consulting — **See alexnano.net for portfolio** — **1998-Ongoing**

- Contribute to open source computer vision person tracking software (openptrack.org) (2014-2017+)
- Proximity-based viewing and Augmented Reality application (iOS/iPad) for an LA Art Gallery (2015)
- Embedded 9 DOF sensor in snowboard to effect music on iPhone for 'Signal snowboards' (2014)
- Control system for 11 floor robotic sculpture in UK (2007 – 2017), 3D DataViz @ Siggraph 2007
- Interactive artwork (computer vision, 3D graphics) in 4 Children's hospitals across US (2002-2008)
- Designed and Deployed 100 embedded kiosks across US (2005-6), Retail JIT Inventory (Prada, 2001)

EDUCATION

DePaul University — **2010-2012, 2016-Ongoing**

- M.A. in Predictive Analytics with Computing Methods Concentration. Complete Winter 2017.
  - Data Mining / Machine Learning / AI (Social Network/Graph analysis, Recommender Systems, Neural Networks, Computer Vision) and Data Visualization, Data Pre-processing
- B.A. in Computing: Scalable Information Systems. Completed Spring 2011. In-major GPA: 3.76
  - CS, Algorithms, Network & Application Architecture, Security, UI/UX

TECHNICAL APPROACH

- **IT/UX** Enjoy architecting & rapid prototyping APIs from scratch as well as improving existing platform/s
- **Management:** Experienced in full software lifecycle, scoping, building and leading teams (Agile,RUP)
- **Architecture:** Namespaces, Scalable Data & Apps, protocols (Thrift/ProtoBuf), micro-services & brokers

ADDITIONAL EXPERIENCE AND AWARDS

- **Instructor (2006):** Taught 'Real-time Media' (Multimedia Programming) at Art Institute of Chicago
- **Embedded Computing:** Mobile/IOT dev with various platforms (Raspberry PI, Jetson, Arduino, Android/iOS)

Languages and Technologies

- Daily: Python, R, JavaScript, AWS, GCP, Linux, Bash, MongoDB/MySQL/Postgres/Redshift
- Monthly: R, C, C++; node, Java/Android, Objective C/Swift, Windows, Cassandra, Docker
- Fun: TensorFlow, CUDA, Hadoop, Spark & real time analytics, new service architectures
- Latent: 2/3D/Interactive/AR/VR/DataViz (A/V editing, 2D/3D: Maya, Blender, Unity, Touch Designer, WebGL, GLSLS, d3/JS (React, Angular), Embedded (Arduino, rPi, IOS, Android)