DIGITAL REINVENTION

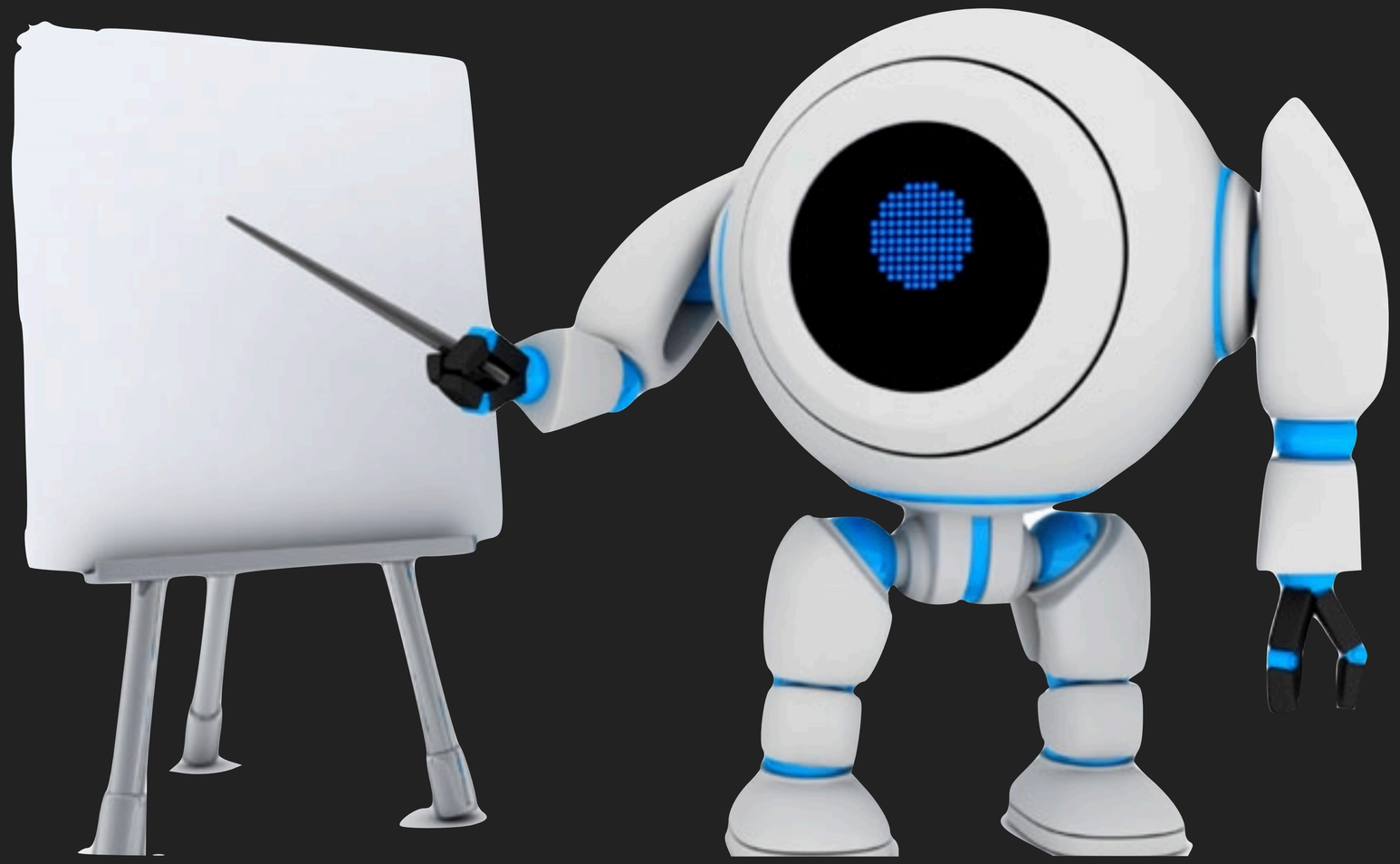
PRECISION ACADEMICS IN THE UNIVERSITY SYSTEM

MYK GARN, PHD

ASSISTANT VICE CHANCELLOR
NEW LEARNING MODELS

LANSING COMMUNITY COLLEGE | Kodak | LAMAR UNIVERSITY | BOARD OF REGENTS OF THE UNIVERSITY SYSTEM OF GEORGIA | KYVU KY VIRTUAL UNIVERSITY | SREB | SL straighterline | BOARD OF REGENTS OF THE UNIVERSITY SYSTEM OF GEORGIA

NEW LEARNING MODELS



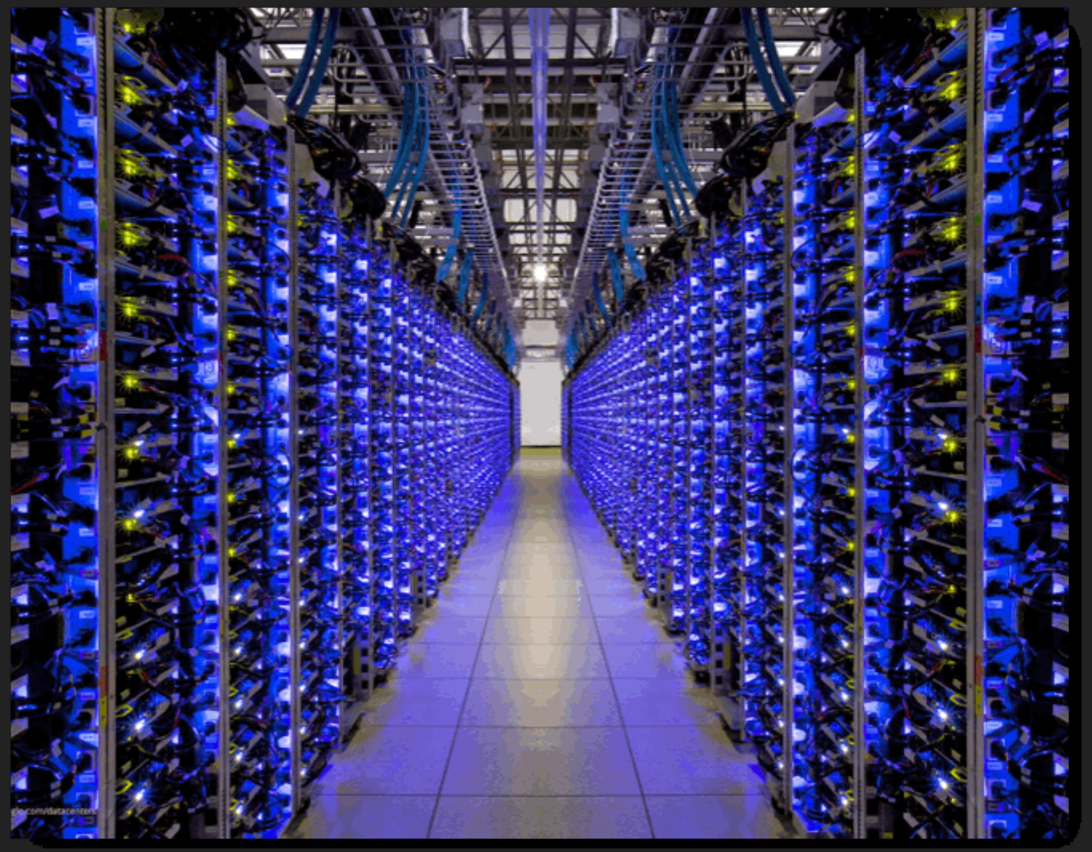
THE OPPORTUNITY SPACE AT THE INTERSECTION OF TEACHING, LEARNING AND TECHNOLOGY

Product Strategist

AEWS

Academic Early Warning System

POSTSECONDARY EDUCATION IS TRANSFORMING



FROM AN ANALOG TO A DIGITAL ENTERPRISE

DIGITAL TECHNOLOGIES WILL FUNDAMENTALLY TRANSFORM THE WAY VALUE IS CREATED IN HIGHER EDUCATION

ERNST & YOUNG, 2012

CREATING VALUE IN POSTSECONDARY EDUCATION

AUGUSTA
UNIVERSITY

CREATING VALUE IN POSTSECONDARY EDUCATION

AUGUSTA UNIVERSITY

MAKING STUDENTS SMARTER

WITH GREAT TEACHERS. . .

Georgia State University

WITH GREAT TEACHERS. . .

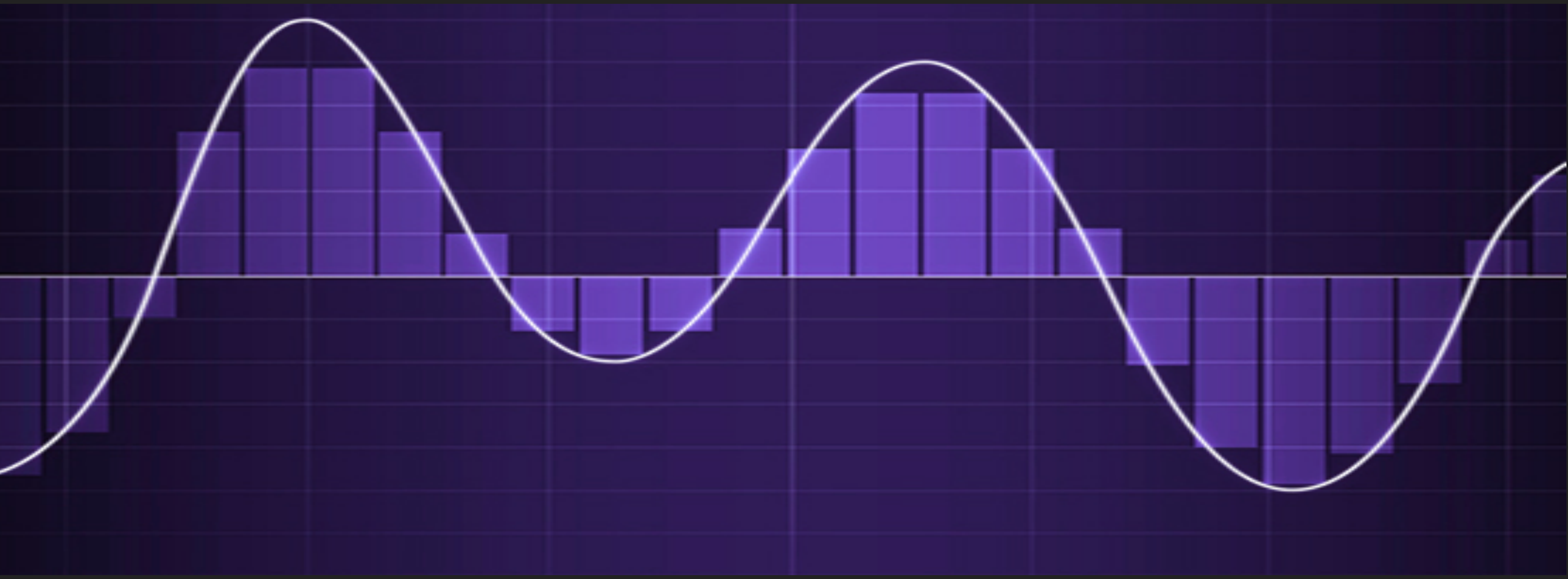
Georgia State University

. . .AND GREAT COURSES

THE WAY COURSES ARE CREATED, DELIVERED & CONNECTED

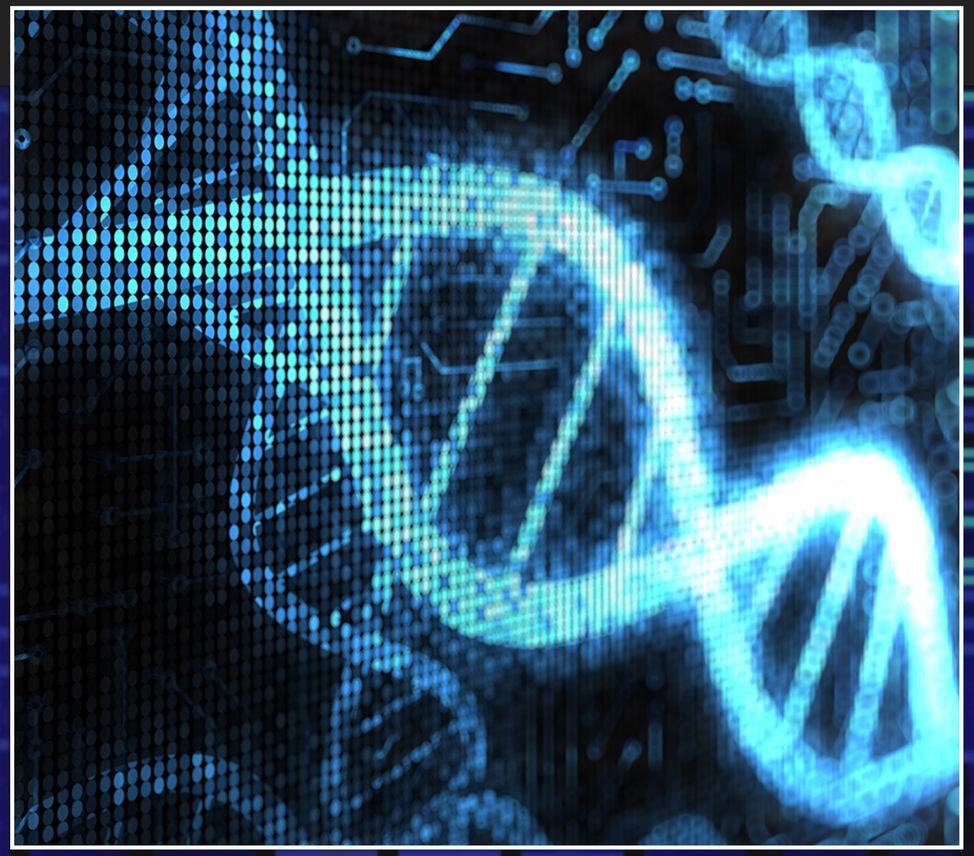
IS CHANGING RAPIDLY

CHANGING ANALOG FUNCTIONS INTO DIGITAL OPERATIONS

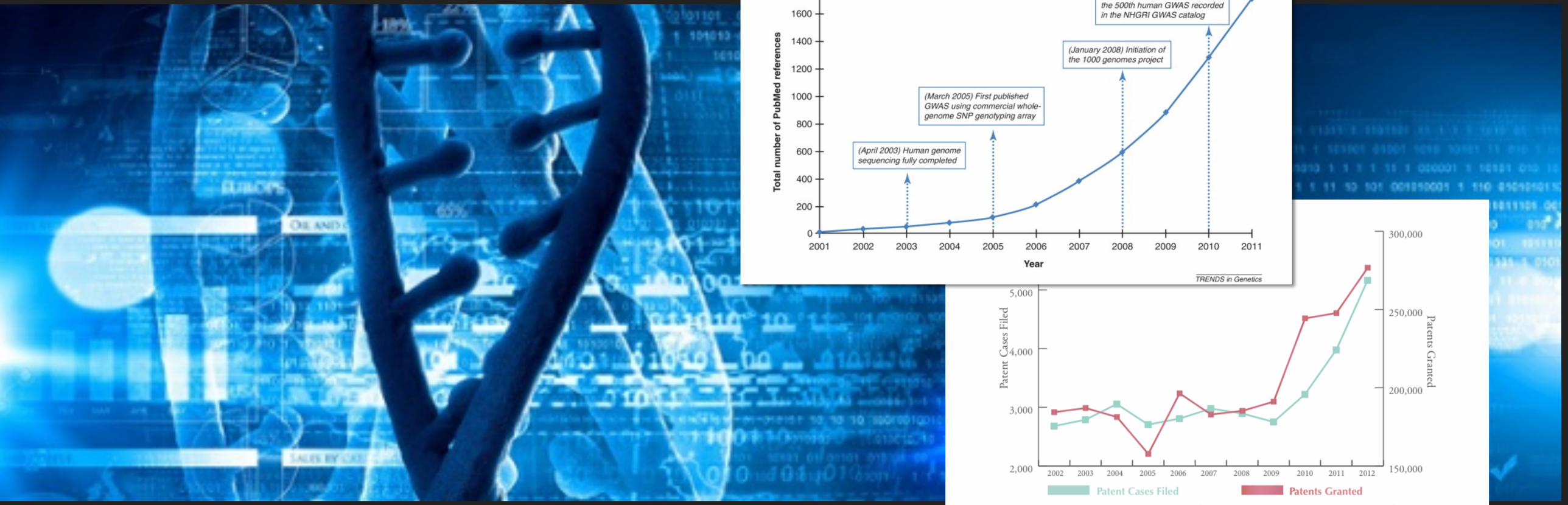


TRANSFORMS ANECDOTAL INFORMATION INTO ACTIONABLE DATA

TWO EXAMPLES FROM MEDICINE



MAPPING THE HUMAN GENOME



GENOME MAPPING & CODING FUELS EXPONENTIAL INNOVATION

ELECTRONIC MEDICAL RECORDS

MOVED MEDICINE FROM NOTES TO NOTEPADS

THE EMR POWERS PRECISION MEDICINE

TAILORING TREATMENT TO THE INDIVIDUAL CHARACTERISTICS OF EACH PATIENT

PRECISION IN POSTSECONDARY EDUCATION

TAILORING LEARNING TO THE INDIVIDUAL CHARACTERISTICS OF EACH STUDENT

PREDICTIVE ANALYTICS

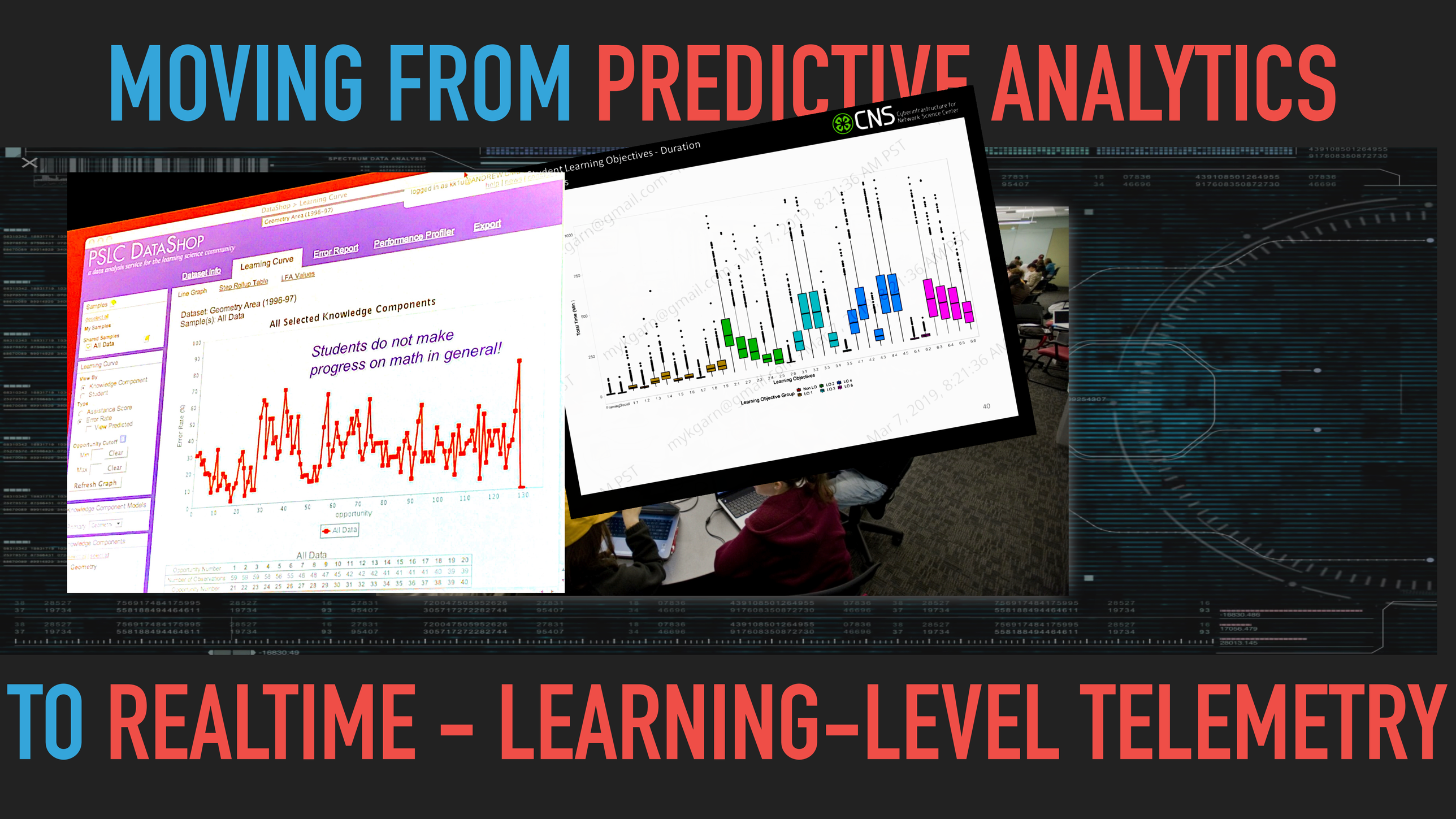
PREDICTIVE ANALYTICS

TO REALTIME - LEARNING-LEVEL TELEMETRY

MOVING FROM PREDICTIVE ANALYTICS

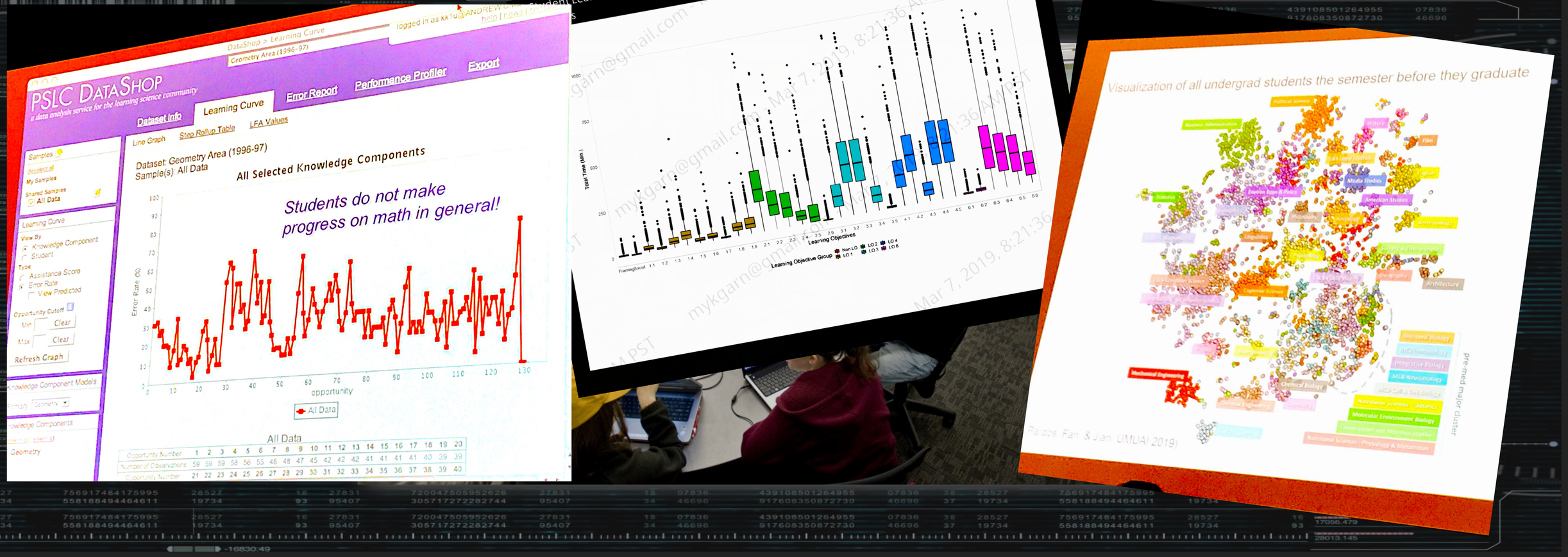
TO REALTIME - LEARNING-LEVEL TELEMETRY

MOVING FROM PREDICTIVE ANALYTICS



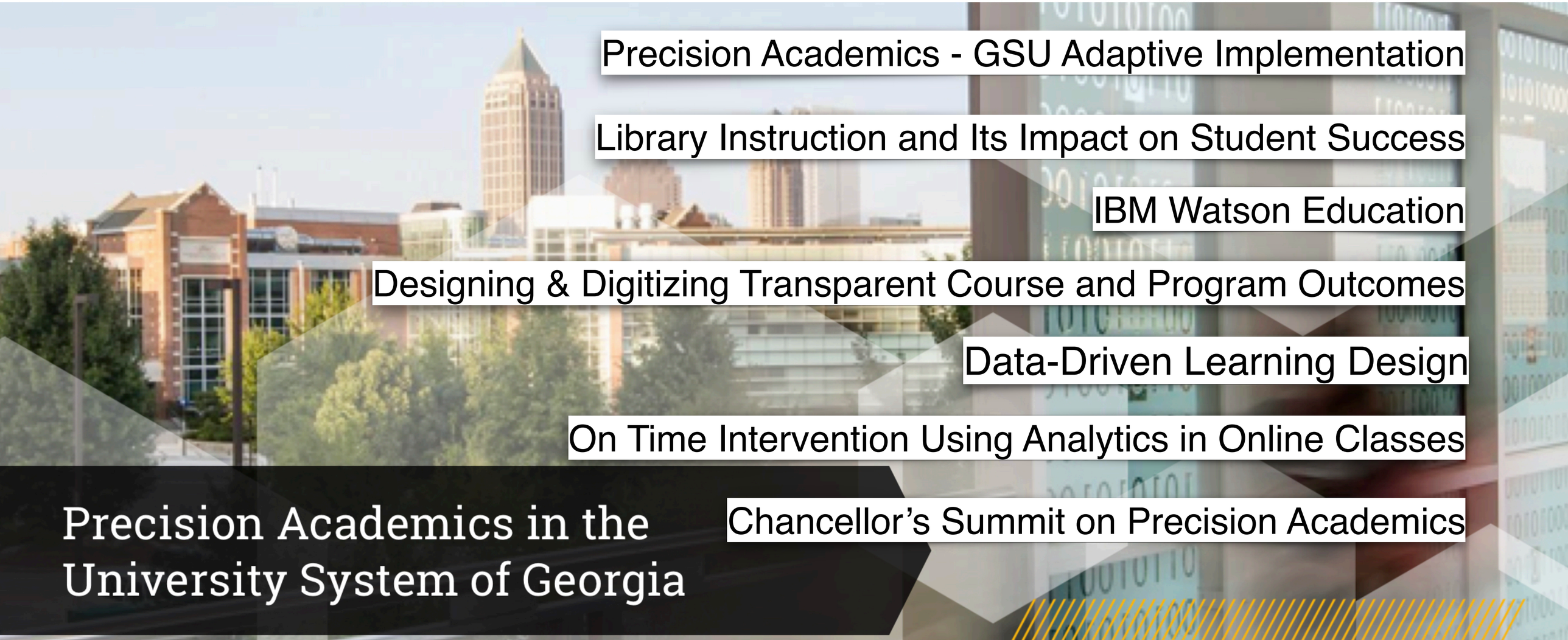
TO REALTIME - LEARNING-LEVEL TELEMETRY

MOVING FROM PREDICTIVE ANALYTICS



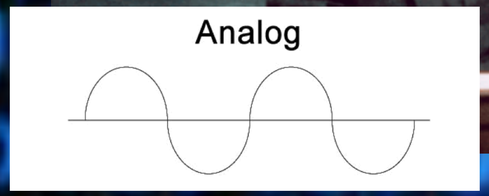
TO REALTIME - LEARNING-LEVEL TELEMETRY

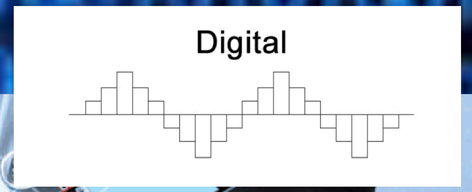
Precision Academics in the University System of Georgia



Precision Academics in the University System of Georgia

PRECISION ACADEMICS MEANS BEING

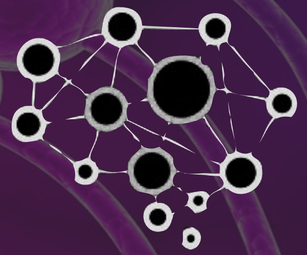




DIGITAL – UNAMBIGUOUS – READABLE – ACTIONABLE

ACADEMIC GENOME

DISCIPLINE & CAREER STANDARDS



CURRICULUM

SYLLABUS

OBJECTIVES

OUTCOMES

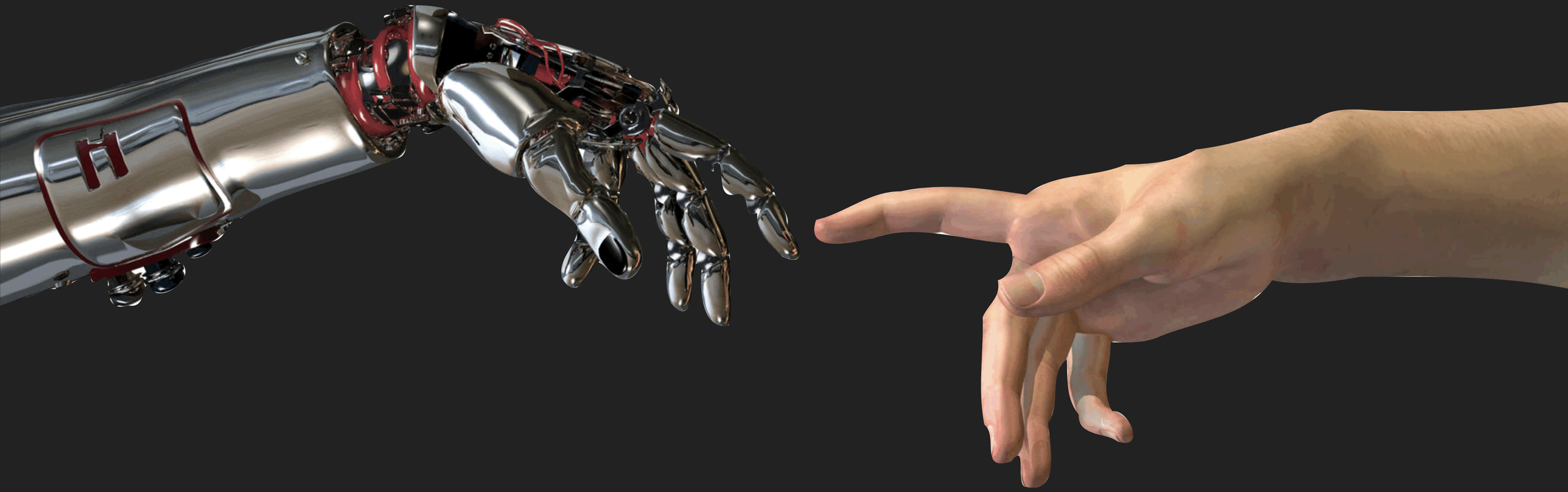
DEGREES

JOB SKILLS

CAREERS	PROGRAM	COURSE	LESSON	LEARNING	CREDENTIALS	CAREERS

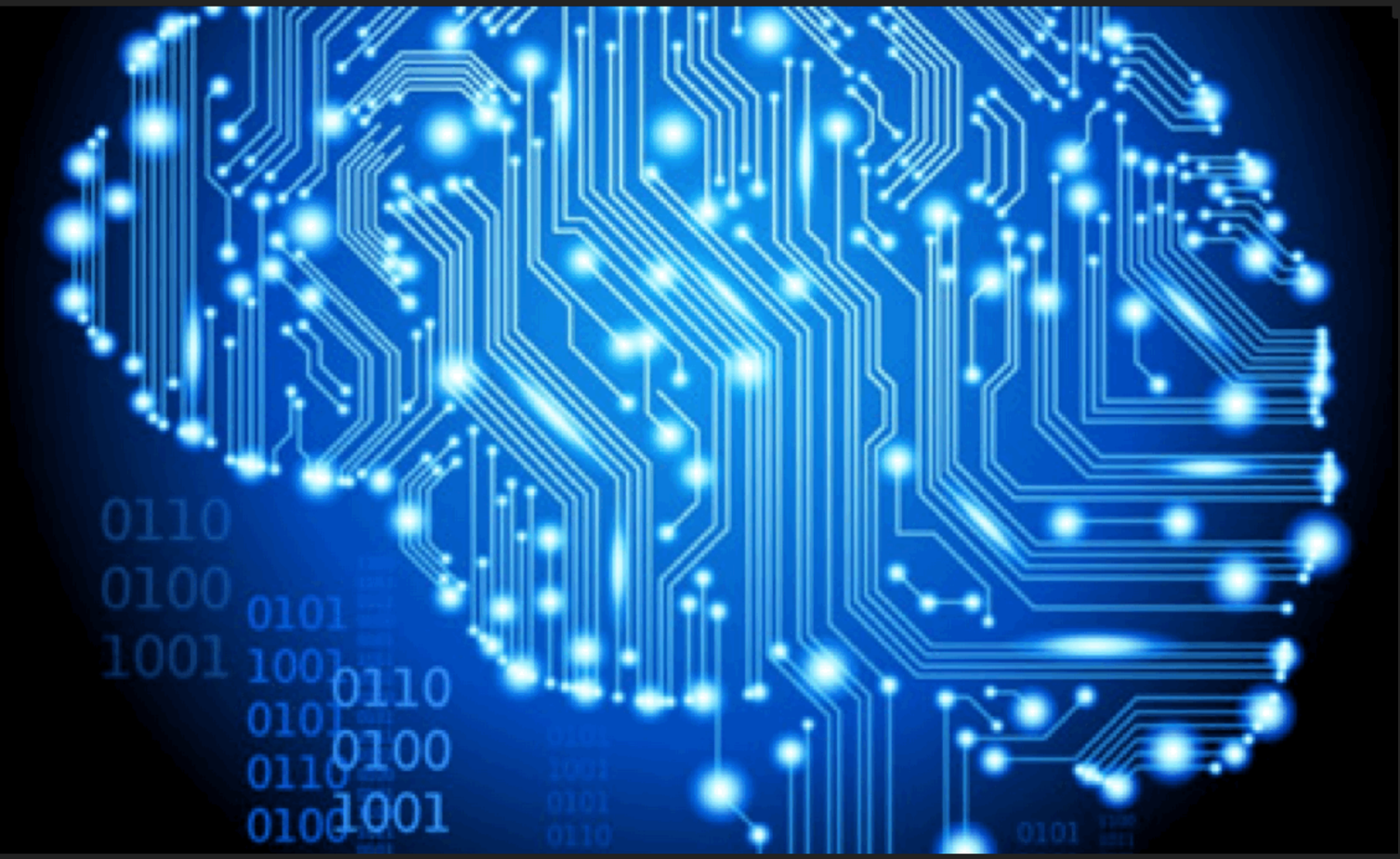
CONNECTED DIGITAL – OPERATIONS – OUTCOMES

AI + NLP + ML =Δ^x



MORAVEK'S PARADOX

SKILLS THAT APPEAR EFFORTLESS ARE THE MOST DIFFICULT TO ENGINEER BUT SKILLS THAT REQUIRE EFFORT MAY NOT NECESSARILY BE DIFFICULT TO ENGINEER AT ALL



MAPPING A CURRICULUM REQUIRES EFFORT

PERSONALIZING A CODED CURRICULUM...EFFORTLESS

The 9th International

Learning Analytics & Knowledge Conference

Tempe, Arizona

March 4-8, 2019 *#LAK19*

hosted by ASU

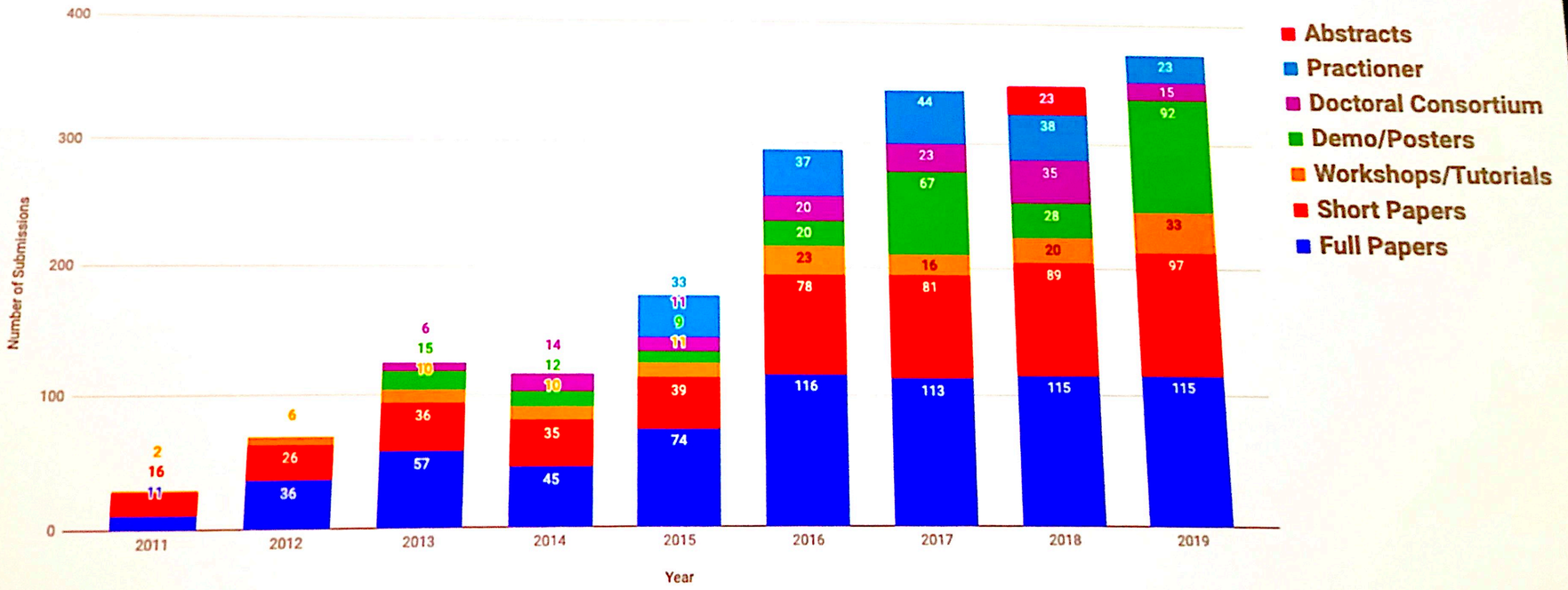
sigweb SIGCHI acm In-Cooperation

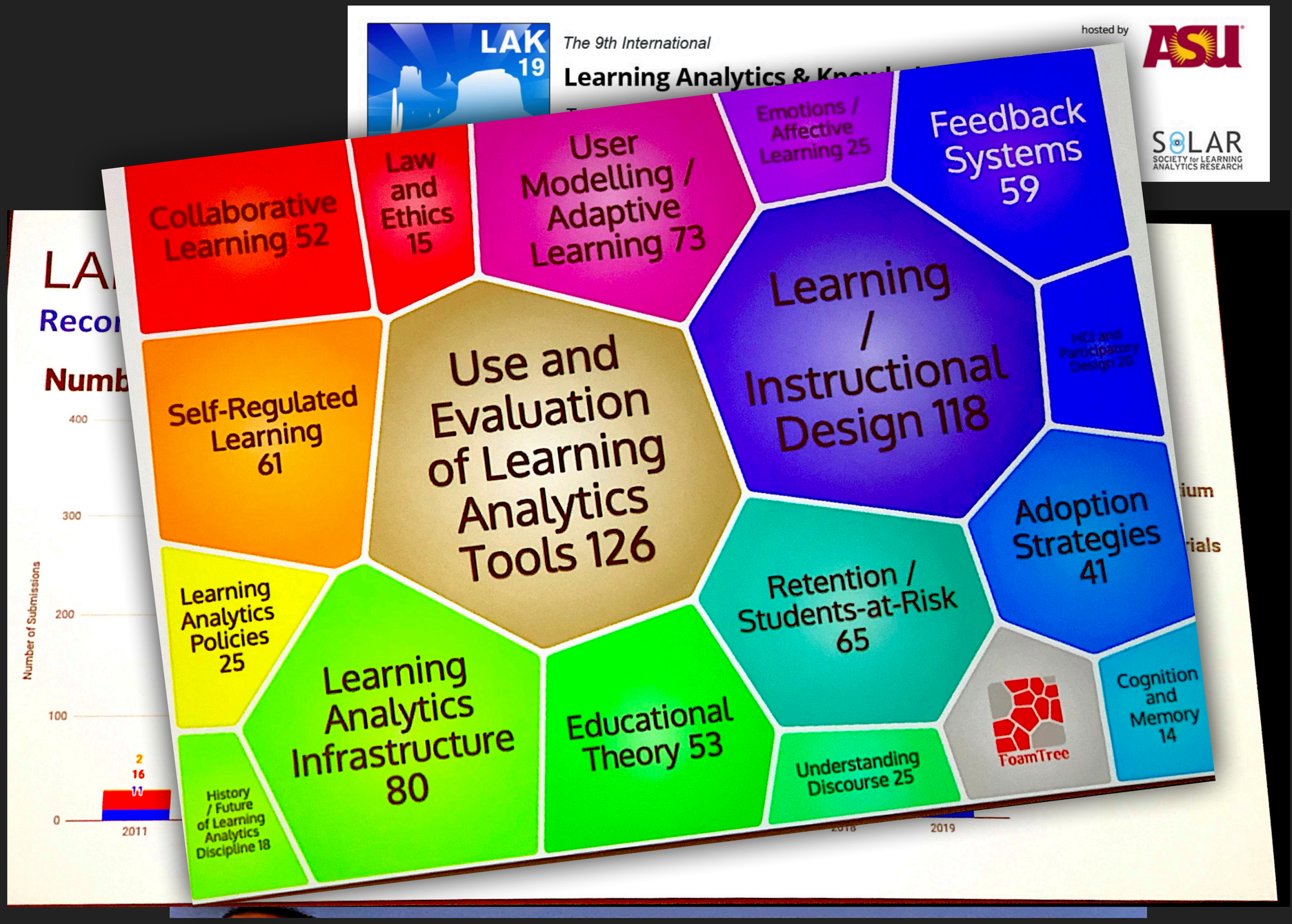
SOLAR SOCIETY for LEARNING ANALYTICS RESEARCH

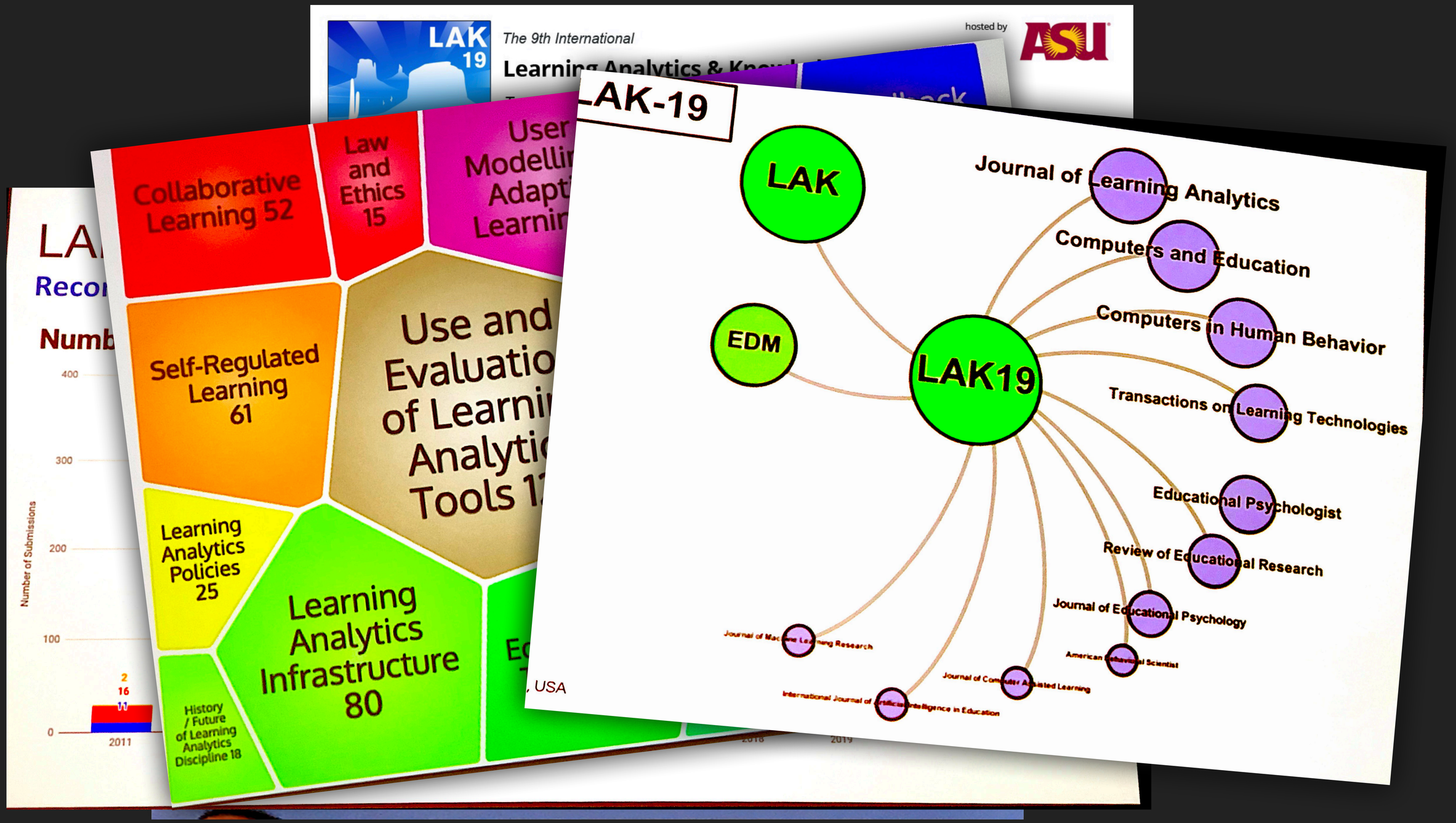
LAK continues growing

Record number of submissions – 375

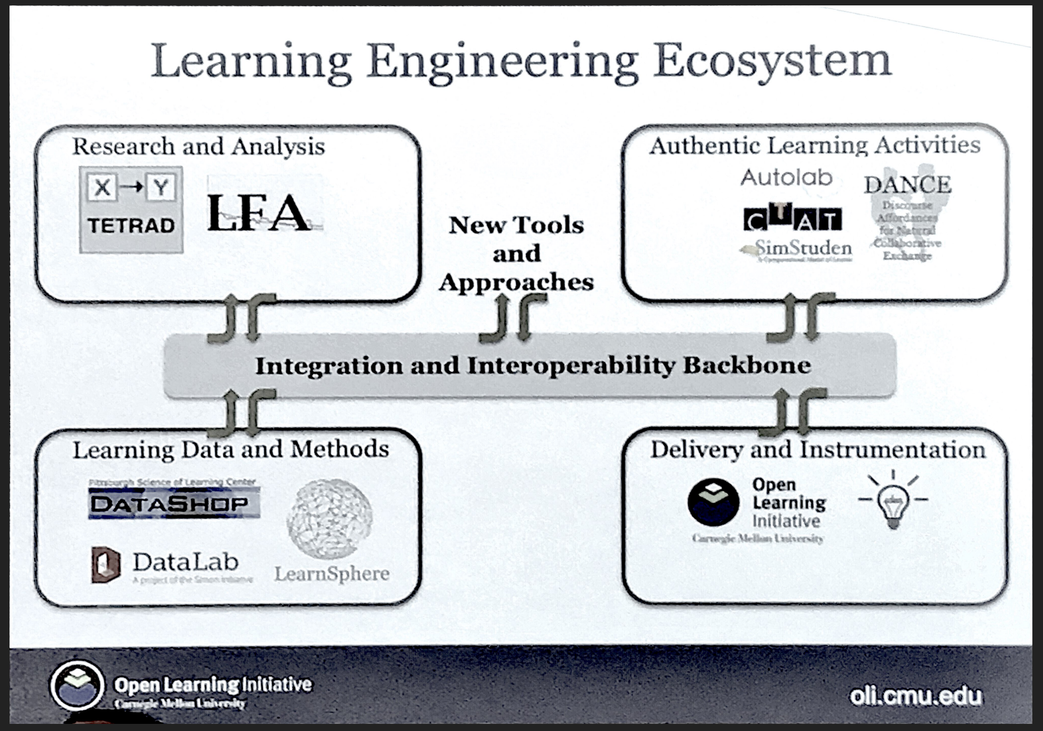
Number of Submission Types per Year




LAK 19
The 9th International
Learning Analytics & Knowledge
hosted by
ASU
SOLAR
SOCIETY for LEARNING ANALYTICS RESEARCH
Collaborative Learning 52
Law and Ethics 15
User Modelling / Adaptive Learning 73
Emotions / Affective Learning 25
Feedback Systems 59
Learning / Instructional Design 118
HCI and Participatory Design 20
Self-Regulated Learning 61
Use and Evaluation of Learning Analytics Tools 126
Adoption Strategies 41
Learning Analytics Policies 25
Retention / Students-at-Risk 65
Learning Analytics Infrastructure 80
Educational Theory 53
Understanding Discourse 25
Cognition and Memory 14
History / Future of Learning Analytics Discipline 18
FoamTree
Number of Submissions
400
300
200
100
0
2011
2019


LAK 19
The 9th International
hosted by
ASU
Number of Submissions
400
300
200
100
0
2
16
11
2011
Collaborative Learning 52
Law and Ethics 15
Self-Regulated Learning 61
Learning Analytics Policies 25
Learning Analytics Infrastructure 80
History / Future of Learning Analytics Discipline 18
LAK-19
LAK
EDM
LAK19
Journal of Learning Analytics
Computers and Education
Computers in Human Behavior
Transactions on Learning Technologies
Educational Psychologist
Review of Educational Research
Journal of Educational Psychology
American Educational Scientist
Journal of Computer Assisted Learning
International Journal of Artificial Intelligence in Education
, USA

THE FUTURE IS MACHINE-READABLE



Competency-Based Assessment

Comprehensive Learner Record

Client Relationship Management

Lesson-level Telemetry & Analytics

AI Help Desk/FAQ

Educational AI-Assistants

Data Instrumentation of Instruction

- Social Network Analysis
- Content Analysis
- Essay Scoring

Open Data Sets for Research

Computational Psychometrics

Probabilistic Soft Logic

LMS 2.0

Mobile First

Fast Feedback

Continuous Learning-level Telemetry

An Ecosystem of Attachable Tools

Massive Multi-Player Online Learning

SHOW ME THE
DATA!!!

PRECISION ACADEMICS

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