

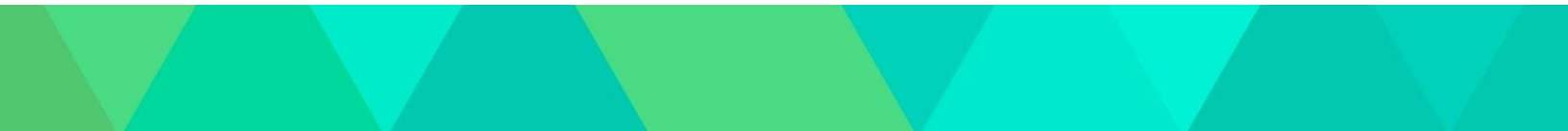
EDUCATION FORUM



PALM BEACH TECH

GOALS & OPPORTUNITIES FOLLOWUP REPORT

“The Palm Beach Tech Education Forum is intended to bring together Tech Executives & Higher Education Leaders to discuss how we further Build the Palm Beaches into a Tech Hub”



Palm Beach Tech Members & Partners,

On February 13th of this year, the Palm Beach Tech Association's Education Committee held our first Palm Beach Tech Education Forum with the support of the Business Higher Education Forum (BHEF)

The gathering was to focus on attaining three (3) predetermined goals as defined by the organizing team of Michael Fowler (*NextEra Energy*), Debbie Hughes (*BHEF*), Barbara Cambia (*Lynn University*), and myself:

- **Build Academic Partnerships**
- **Strengthen Talent Initiatives**
- **Identify Actionable Insights & Trends**

With the support of our members, partners, and staff, we identified seven (7) gaps and six (6) opportunities listed in following report for our industry to address in the coming year. The Education Committee will take on these tasks through a yearlong 2018-2019 tactical plan set in June 2018, and as approved by the Board of Directors.

Additionally, it's imperative to note we would not have been successful in this effort without the support of several South Florida Higher Educational Institutions. Of the following, we also had eight (8) Deans or High Level Administrators attend

- **Florida Atlantic University**
- **Lynn University**
- **Palm Beach State College**
- **Keiser University**
- **Nova Southeastern University**
- **Miami Dade College**
- **Palm Beach County School District**

It's our hope that this continued effort will lead to further building our Educational Pipeline for technology jobs in the Palm Beaches and South Florida.

Sincerely,



Joseph R. Russo

Executive Director, Palm Beach Tech Association



STRATEGIC PARTNERS

ORGANIZING PARTNERS

The Palm Beach Tech Association is a non-profit 501(c) 6 membership association uniting and building the innovation, entrepreneurial and technology industries throughout Palm Beach County.

- Joe Russo | Executive Director

The Business-Higher Education Forum (BHEF), a membership association of CEOs and university presidents and heads of systems working at the intersection of higher education and workforce development to ensure the talent of today and tomorrow are prepared for jobs of the future.

- Debbie Hughes | Vice President of High Education and Workforce

EDUCATION PARTNERS

Florida Atlantic University

- Dr. Stella Batalama | Dean of Computer Science & Engineering
- Dr. Daniel Gropper | Dean of Business
- Rhys Williams | Managing Director of FAU Tech Runway

Lynn University

- Barbara Cambia | Executive Director of Career Connections
- Chris Boniforti | Chief Information Officer
- RT Good | Dean of Business
- David Jaffe | Dean of Communications

Palm Beach State College

- Dr. Jean Wihbey | Provost & VP of Workforce Development
- Dr. Kim Allen | Associate Dean of Business & Computer Science

Keiser University

- Gregory Block | Professor of Information Technology



BREAKOUT SESSION & PANEL

The following are the raw notes from the four (4) breakout sessions. Each moderator was given a general direction of goals for their group, and were free to lead discussion in whatever way they saw fit:

- **Big Data & Analytics** | Audrey Hammonds (*Microsoft*)
- **Cyber Security** | Ben Miron (*Florida Power & Light*)
- **Software Engineering** | Jeff Macomber (*Modernizing Medicine*)
- **Augmented & Virtual Reality** | Todd Albert (*Nebular Agency*)

Additionally, we took feedback from the panel

- *Moderator: Michael DeBock*, President and CEO @ Economic Council of PBC
- **Kevin Hutchinson**, Founder & CEO @ MyTaskit
- **Ryan Gay**, Co-Founder and CEO @ Levatas
- **Diane Dagher**, Director of Talent & Culture @ Modernizing Medicine
- **Chris Boniforti**, CIO @ Lynn University
- **Michael Fowler**, Vice President @ NextEra Energy Resources

PHOTOS FROM BREAKOUTS & PANEL



Identified Gaps & Opportunities

The following Gaps & Opportunities were determined by our organizing team after analyzing notes from the Panel Discussion and moderator-led breakout sessions on four key skillset areas:

- Big Data & Analytics
- Cyber Security
- Software Engineering
- Augmented & Virtual Reality (AR / VR)

Additionally, the Education Committee met twice to review and converse on the total of twelve (12) conclusions ultimately drawn from each and every discussion. Most importantly, these are accurate qualitative conclusions.

IDENTIFIED GAPS (*Problems*)

These are current issues as identified with attending corporate partners

1. Soft Skills (*Interviewing, Resumes, Networking*)
2. Critical Thinking Skills
3. Cyber Security Training & Degrees
4. UX - User Experience Design Instruction
5. Key Software Languages (*JavaScript, C#, etc*)
6. Project Management Training (*Agile / SCRUM*)
7. Internship Requirements for Degree Programs

IDENTIFIED OPPORTUNITIES (*Solutions*)

These are potential goals as identified with attending educational partners.

1. Support Expansion of Academic Advisory Boards
2. Adjunct Professor & Instructor Recruitment Program
3. Mentorship & Speakers Bureau
4. Foster Internships, Externships, & Apprenticeship
5. Address Curriculum Gaps
6. Formal Business Partnerships



Strategic Goals 2018 - 2019

These are eight (8) goals determined by our

GOAL 1 | Collaborate with Higher Education & Community Partners to identify needs and recruit Advisory Board Members.

GOAL 2 | Work with Major Business Partners & Universities to create an Internship & Externship best practices guide, and aggregate formal Internship Programs.

GOAL 3 | Establish a Speakers Bureau for Academic Instructors & Career Services to connect with experienced Industry Professionals.

GOAL 4 | Facilitate Business Partnerships to develop long term educational pipelines, through in class programs & projects.

GOAL 5 | Work with LaunchCode to expand their Development Apprenticeship Programs throughout Palm Beach County.

GOAL 6 | Work with Business Higher Education Forum to strategize solutions to current and future curriculum gaps.

GOAL 7 | Create a marketing initiative to recruit Adjunct Professors & Instructors.

GOAL 8 | Seek Workforce Development / Grant Funding to initiate collaborative research initiatives between all institutions.

MORE INFORMATION

Any questions? Anything we can do for you? Reach out to us anytime

Joseph R. Russo | *Executive Director*

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Michael Fowler | *Education Committee Chair*

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APPENDIX A - ATTENDEES

BUSINESS ATTENDEES

Michael Fowler	VP @ NextEra Energy Resources	michael.fowler@nexteraenergy.com
Audrey Hammonds	Solutions Architect @ Microsoft	Audrey.Hammonds@microsoft.com
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EDUCATION ATTENDEES

Florida Atlantic University:

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Palm Beach State College:

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Palm Beach County Schools:

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All Others:

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APPENDIX B - BREAKOUT NOTES

AUGMENTED & VIRTUAL REALITY (AR / VR)

- **UX design** — How does UX work within AR/VR and development in general? We touched on how it doesn't just include UI, graphic, and experience design, but needs to account for biology and physiology as well (to keep people from getting sick, have a better experience, etc.)
- **3D Modeling** — modelers must understand the difference between render-ready assets and game-ready assets needed for real-time rendering in AR and VR.
- **3D Development** — we use Unity because of licensing options for our clients — scripting uses Javascript and C#
- **Javascript and C#** are most in-demand languages in South Florida
- Knowing programming, not just a specific language — fundamentals are essential
- **Need developer training** — Students aren't leaving college job ready, or they're at a basic jr. level and need to quickly develop into mid-level developers via internships or mentorships
- **Community partnerships**
- Properly prepping students for dev and STEM fields from young ages (PreK-12th) to enter college with a more advanced understanding of computer development. In other words, they enter college behind the curve of where they need to be to successfully accomplish their first semester in computer science. Side note: I've chatted with students in FAU's computer science program and they have about a 75% fail/drop out rate from the program. They can't keep up.
- Using AR/VR in informal and experiential education (this was voiced specifically by the lady from the Science Museum)

** Lynn University Dean of Communications college touched on how AR is changing the game in communication and journalism. While the printing press, audio and video allowed us to become observers in a story, AR immerses us in it. We become part of the story and can now interact with it. This is something Lynn wants to capitalize on.*



BIG DATA & ANALYTICS

- **Architecture** - General consensus was that the use of the technology (languages, platforms, etc.) was much less important than conceptual fundamentals. Great statement from an FPL employee: “I don’t care what languages you teach, just make sure they understand the concepts and can learn the tools”
- **Early Exposure** - Part of core first year curriculum for any college student should include an course that introduces a broad range of IT concepts. NOT a coding course, but a systems course. FAU already has something in place.
- **Systems Thinking** - Feedback from some of our college professors was the most important skill we can teach is systems thinking - that is, how to see the holistic problem/solution rather than thinking in terms of code-based solutions
- **Project-Based** - We need to put students into project-based situations early and often, with real deliverables that depend on interaction with other students
- **Balance Hard & Soft Skills** - A student should be able to explain the value proposition of a solution, not just the solution itself. students should be able to do basic implementation of technologies, but do not forget skills such as:
 - Presentation/Communication
 - Project Planning
 - Group Work
 - Business Process Management
- **HS Exposure** - We had a gentleman from PBC Schools - he pointed out that software development is basically the **scientific method applied to a specific concept**. If we can expose high school students to IT and put it in the context of scientific discovery, they will be more ready for college courses. Personal Note: This is brilliant. It addresses the try/fail/repeat nature of development, encourages curiosity and experimentation. There is something really solid here, and it’s worth exploring.
- **Applied Solutions Architect** - Mathematics has been able to create programs that cross the divide between theoretical and applied math. Can we look to them as a model for how to educate an “applied solutions architect”?

Challenges 1: How do we create well-rounded people who also have the hard skills necessary to land a job?

Challenges 2: There is so much - what do we focus on?



SOFTWARE ENGINEERING

Asks from Industry - output students familiar with:

- Functional Programming in addition to the traditional Object Oriented Programming
- Process such as Agile/Scrum
- Fluent in version control systems such as GIT
- Fluent in the Software Development Life Cycle (SDLC)
- Familiar with Continuous Delivery and Continuous Integration
- Familiar with the concepts of Progressive Web applications
- Fluent in Javascript and how it differs from Java
- An awareness that in the professional world they will need to be open to accepting changing requirements/dynamic thinking
- Familiarity with Data frameworks and database systems in general
- Familiarity with NoSql solutions such as MongoDB
- Familiarity with Block Chains and the potential uses for them

Asks from Education:

- Mentoring from Industry
- Internships
- Partnerships
- Assistance in keeping pace with industry



CYBER SECURITY

Key industry Challenges

- Information sharing... threat intelligence
- Technical complexity... finding the needle in a haystack

Talent and Skills Needed

- Communication skills and teamwork orientated
- Analytical, problem solving
- Technical acumen:
- Offensive mindsets, security testing
- Software reversing
- Threat intelligence

Opportunities

- Apprenticeships / Internships and partnerships
- Increased outreach to higher ED to share specific skillsets
- Clearer mapped of current organizational functions and how they map to curriculum
- Re-training existing workforce

