

Information Technology Entrepreneurship projectscollaboration and assessment - Academics and BILT (Business Industry Leadership Team)

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Agenda

- Mission
- ISLO Institutional Learning Outcomes
- Our Programs- Cyber Defense, Programming, Networking (AAS)
- IAB Industry Advisory Board / BILT Business Industry Leadership Team
- IT Entrepreneurship project Business and Industry Judges
- ePortfolio, soft skills
- Career Readiness

Abstract

Chattanooga State Community College CIT students worked on IT entrepreneurship projects in their Systems Analysis and Design class. The team project emphasized creating ePortolio, gaining soft skills, presentation skills, career readiness and interview skills. Students brainstormed on ideas for startup IT Business and created a web site, database, organization chart, budget sheet, marketing materials and presentation. The project emphasis was on communication, hard skills and soft skills. Business and Industry professionals judged student's projects using a rubric and provided constructive feedback.

Mission

The mission of Computer Information Technology Department is to prepare students for Associate of Applied Science in Cyber Defense, Networking and Programming concentration along with certifications in emerging Information technologies and transfer to 4 year schools via TTP Tennessee Transfer Pathway.

The programming track prepares students in databases, object-oriented and web programming languages to design, develop and implement scalable applications for Software Engineer careers.

The Cyber Defense program prepares students with skills needed to identify vulnerabilities and fortify computer systems in order to prevent cyber security breaches.

The Networking program provides students with network management skills, computer security, operating systems, switches and routers, and server administration. Students will develop strong critical thinking and problem solving skills in a hands-on lab environment along with real world internship experiences.

ISLO – Institutional Student Learning Outcomes





https://youtu.be/cx_du9gxM0M

Soft skills for a great job and successful career:

- Problem Solving
- Critical Thinking
- Communication
- Work Ethic (Time management)
- Life long learner

Programs

Cyber Defense

https://www.chattanoogastate.edu/cyber-defense-concentration

Programming

https://www.chattanoogastate.edu/programming-concentration

Networking

https://www.chattanoogastate.edu/networking-concentration

CYBER SECURITY

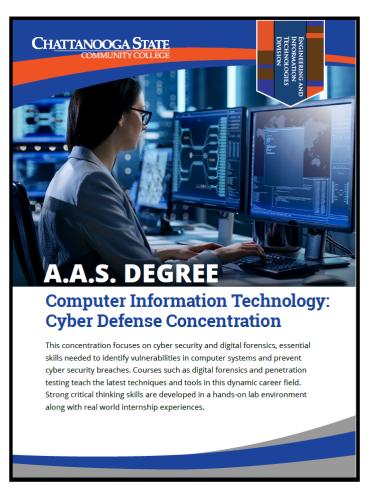
Applying for Center of Academic Excellence in Cyber Security (CAE) 2 year designation

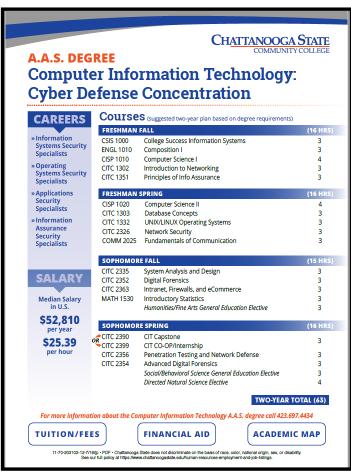
Cyber Defense

Graduates can find career opportunities as information systems security specialists, operating systems security specialists, applications security specialists, and information assurance security specialists. Career opportunities may be found in the healthcare, financial services and insurance industries, as well as in education.

This concentration provides students a foundation in programming and networking, essential skills needed to identify vulnerabilities and fortify computer systems in order to prevent cyber security breaches. Courses such as digital forensics and penetration testing teach the latest techniques and tools in this dynamic career field. Strong critical thinking skills are developed in a hands-on lab environment along with real world internship experiences.

Cyber Defense







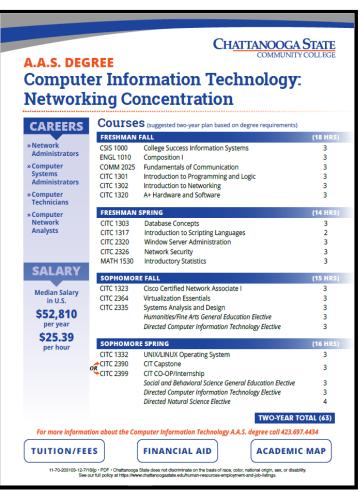
Networking

Graduates can find career opportunities as network administrators, computer systems administrators, computer technicians, or computer network analysts. There are careers available in government, education or private industry.

This concentration offers coursework to develop the skills to manage networks. In addition to network management skills, students learn about computer security, programming, operating systems, switches and routers, and server administration. These courses help students prepare for certifications such as A+, Network+, and CCNA. Strong critical thinking sills are developed in a hands-on lab environment along with real world internship experiences.

Networking





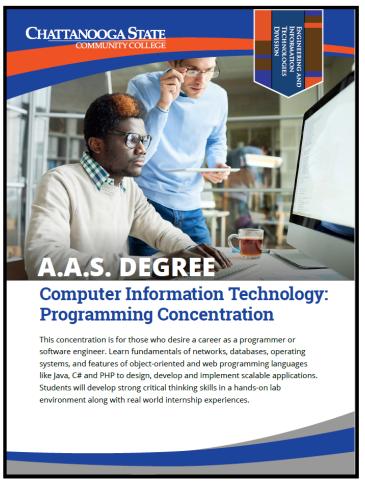


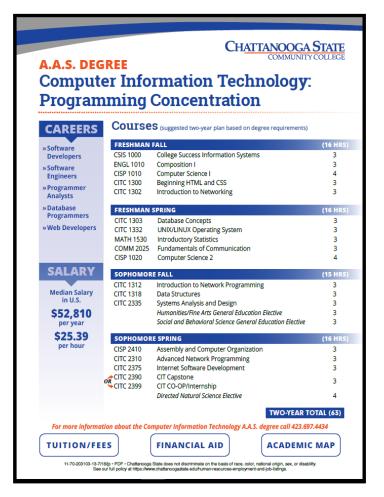
Programming

Graduates can find career opportunities as software developers, software engineers, programmer analysts, database programmers, or web developers. Careers are available in almost every industry.

This concentration is for those who want a career as a programmer or software engineer. Learn fundamentals of networks, databases, operating systems, and features of object-oriented and web programming languages like Java, C# and PHP to design, develop and implement scalable applications. Students will develop strong critical thinking skills in a hands-on lab environment along with real world internship experiences.

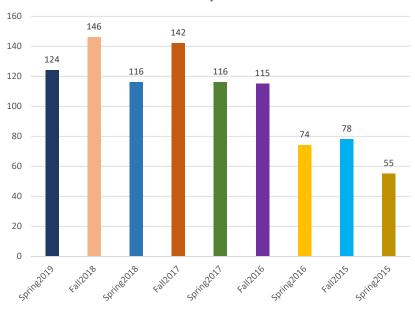
Programming



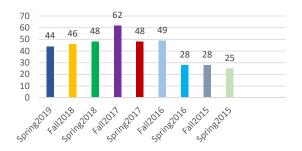


Enrollment Statistics

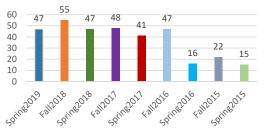




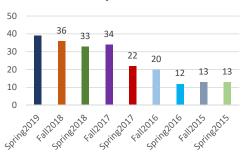
A.A.S Networking



A.A.S Programming



A.A.S Cyber Defense



Internships required for AAS programs

- 200 hour internship is built into our AAS program.
- Student works with a professor and business to sign a contract on the project statement of work and deliverables.
- Student reports weekly progress.
- On completion, student gets paid internship and receive 3 credit hours.
- Professor assigns grade based on student report as well as feed back from Business on student work ethic, time management, task completion and enhancement of skills.

Spring 2019 Statistics

Spring 2019 Headcount

				American		Black or African		Multiracia							Acad
Program	Total	F	M	Indian	Asian	American	Hispanic	1	White	<18 yo	18-23	24+	Pell Elig	First Gen	UnderPrep
AAS-CIT-Cyber Defense	14	2	12	0	0	1	0	0	13	1	4	9	7	5	8
AAS-CIT-Game Programming	1	0	1	0	0	0	0	0	1	0	1	0	1	0	0
AAS-CIT-Networking	28	2	26	0	1	2	1	1	23	0	7	21	12	10	19
AS-UTPS-Computer Science	80	12	68	1	2	6	8	4	59	0	55	25	35	22	43
Total	123	16	107	1	3	9	9	5	96	1	67	55	55	37	70

ierp, 2.22.2019

Challenges

- Training todays students to be able to analyze and implement new technologies that currently do not exist is the greatest challenge of technology instructors. We are training students to be able to adapt and apply skills learnt to solve problems.
- With growing business needs to hire trained IT professionals and lack of graduates to support the business needs has become a bottleneck.

IT Entrepreneurship Project – bridging the skills gap

- Recruiting Board Members (Business and Industry Team BILT)
- Administrative approvals, Facilities
- Marketing photo release forms, social media
- Industry collaborators Business and Industry Judges
- Volunteers
- Participants
- Sponsors
- Parking
- Student Presentations
- Student / IAB panel discussions (students interview BILT)

Our Partners and Collaborators

- EPB
- Blue Cross Blue Shield BCBS
- Chattanooga Technology Council
- McKee Foods
- Ostracon
- UNUM
- Sword and Shield
- Data Blue
- Comcast
- City of Chattanooga
- DC Blox
- Hamilton County
- UTC
- Oak Ridge National Lab
- Volkswagen
- Chattanooga State Workforce Development
- Chattanooga State ICARE

IT Entrepreneurship

- Eight student teams participated in the Systems Analysis and Design class (CITC-2335) taught by Savitha Pinnepalli as they presented IT entrepreneurship projects to judges from the business and industry sector
- The project specifications challenged students to develop an IT company from scratch.
- Each team developed marketing materials that included logos, business cards, brochures, a website and social media outlets to promote their company. Using Visio, they created organizational charts, while budgets were prepared using Excel spreadsheets and Microsoft Project Management software that included equipment and software acquisition for their companies.
- Finally, each team created a database, a website and used PowerPoint to present their work. They also submitted their research documentation on eLearn LMS and provided hard copy binders to BILT.

Poster for the Service Learning Conference.



Grading Rubric for judges

CITC - 2335 4/17/2018 5:30 - 6:30 pm CETAS 215							
Project Evaluation Form							
Name:	Presentation Date:						
Topic:	Team Number:						
Area Each Step is worth 50 points	Excellent 50 pts	Good 40 pts	Fair 30 pts	Points Earned			
Step1: Title: Your company Name Team Members: Linked in profile, sample resume, cover letter and any copy of any certificates you have obtained. Goal or mission of your company How will you market your company? (News Paper Ads, TV ads, Flyers, Social Media, brochures, website (Wix.com), presentation, Fairs, Public Domain, Business cards) Display at least three items in binder.							
Step2: You can create a fake company or collaborate with a real company. 1. If you are planning on working on a fake company you created, you will have to create the problems and solve them. 2. Working with a real company will help you receive data and content they currently have and your task will be to improve the Business Process Model. • Estimate total budget needed to run your company for one semester (Excel Spreadsheet). Include budget for personnel, items needed, hours of work needed etc. on an excel spreadsheet. • Create organizational chart using Visio 2016 software to include your team members and nominate a leader for your team. • Create a Project Timeline with tasks and deadlines using Microsoft Project 2016 Application • Implement some part of your project in to a database. Create queries, forms and reports (use access or php. mysql)							
Step3: Data Flow diagram for your project. Create a database to implement your project.							
Step4: Project presentation- Power Point Binder with all documents Electronic File Submission via github and							
	TOTAL:200 Points						

Artifacts collected

- 1. Mission of the IT company.
- 2. Organization Chart using Visio.
- 3. Financial Budget sheet in excel.
- 4. Microsoft Project timeline and resource allocation.
- 5. Website
- 6. Database
- 7. Marketing materials brochure, new paper ads, infographics
- 8. Presentation
- 9. Social Media LinkedIn, GitHub, twitter, Facebook
- 10. Job preparation materials resume, cover letter, references, thank you letter, business cards (adobe spark).
- 11. ePortfolio using digication



Golden Rules

- 1. Work harder than everyone!
- 2. Show up early, stay late when needed
- 3. Enjoy a challenge & be flexible
- 4. Look for ways to improve (learn from failure)
- Be teachable
- 6. Have a spirit of excellence
- 7. Have a optimistic & positive attitude
- 8. Align yourself with the Alphas (find good mentors)
- 9. Be grateful, not a complainer
- 10. Be a good negotiator
- 11. Continue Your Education (NEVER STOP LEARNING!)



Fall 2017 cohort





Spring 2018 cohort





Fall 2018 cohort



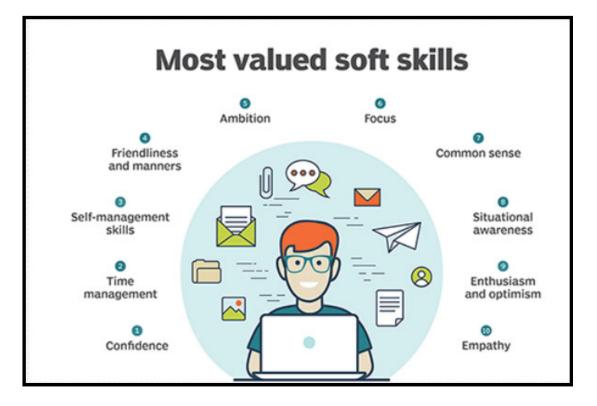




BRING YOUR A GAME TO WORK



In work, as in life, the greatest rewards are reserved for those who jump in with both feet, roll up their sleeves, and do their best.



Classroom Strategies for Teaching Employability Skills

- Technical Writing
- Communication
- Critical Thinking
- Dependability
- Digital Footprint
- Social Media
- Service / volunteer hours in a computer related field
- Resume Writing
- Interview Skills
- Never stop learning

Top 10 Soft Skills for Success

- **Dependability** Being dependable means that you do what you say you will, when you say you will. You can be trusted to complete any task, and you will do it well.
- Motivation You should be able to motivate yourself to get tasks done, and take the initiative to find new ways to improve upon not only yourself and your work, but also your organization.
- **Communication** This is one of those skills you hear about all the time, and that's for a reason. Communication is the key to any human interaction, especially in the workplace.
- **Commitment** Employers want to know that you're not only committed to the company and your job, but to turning out the best work you can, every time.
- **Creativity** Can you think about problems in a new and interesting way? Show your employer how.

Top 10 Soft Skills for Success

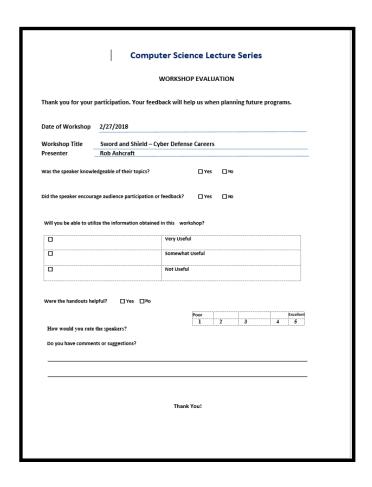
- **Problem Solving** If you're confronted with a problem, employers want to know that you will do everything you can to fix it. Your creative skills will come in handy here.
- Flexibility Sometimes, your job is going to be a little like a roller coaster. Can you adjust to the chaos?
- **Teamwork** You're not done with group work after graduate school. Working in a team is an essential part of almost every job.
- Leadership You may not be a natural born leader, but can you step up and guide either a group of people or a process if necessary?
- **Time Management** Life gets busy, both in and out of the workplace. You need to be able to balance your workload and prioritize what gets done.

http://www.nationalsoftskills.org/top-10-soft-skills-for-success/

Empower students to succeed with Skills and Training

- The best way to prepare the next generation of IT Professionals
- Hard Skills (Technical)
- Soft Skills (Behavior)
- Experience (contextual , Job shadowing, internships, volunteering)
- Job Market Insights (Opportunity Data)
- Skills like communication, time management and conflict resolution are critical in the workplace, and being able to demonstrate them can really help a student stand out in today's competitive job market.

Computer Lecture Series - Presenter Feedback



- Lean Six Sigma Project Management UTC, Arbha Wolday
- Innovations of the Future Kenco, Kristi Montgomery
- Cyber Defense careers Sword & Shield Rob Ashcraft
- PMP cerfitification LSU, Dr. Sai Pinnepalli
- Database tips from a Data Scientist Very, Jeff McGehee
- IT at Chattanooga State Community College, Bruce Carlisle
- Big Data, Lone State College, Rajeev Malkan
- DC Blox, Benny Middleton
- Computer Ethics, Southern Adventist University, Michael Dant
- Cesar Salazar, TBI, "Internet Crimes"
- Ed Merritt, Hamilton County Sheriff's Dept. "Mobile Forensics"
- Machine Learning & Cyber Security: How Smart Can It Be?" given by Shayne Champion, Chief Information Security Officer for Conversant Group.

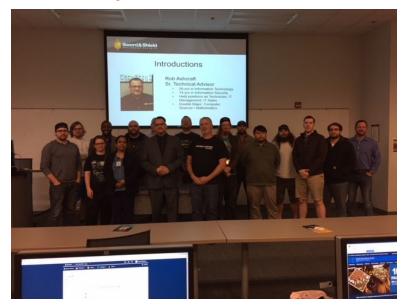
Field Trip to Oak Ridge National Labs



Super Computers – Summit, Titan, The Exploratory Visualization Environment for Research in Science and Technology (EVEREST)



Computer Science Lecture Series / Field Trips





IT HUB CLUB Student Organization

Tutoring						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:00 - 9:00 a.m.						Jay Patel CETAS 341
9:00 - 10:00 a.m.	Jacob 9:45 Max Cat 33	Jacob Max Cat 33	Jacob 9:45 Max Cat 33	Jacob 9:45 Max Cat 33	Jacob 9:45 Max Cat 33	Jay Patel CETAS 341
10:00 - 11:00 a.m.	Misheal CAT 33	Jacob 10:45 Cat 33	Micheal CAT 33	Jacob 10:45 Cat 33	Amy Max CAT 33	Jay Patel Jacob CETAS 341
11:00 -12:00 p.m.	Misheal CAT 33	Amy Michael CAT 33	Misheal CAT 33	Amy CAT 33	Amy Max CAT 33	Jay Patel Jacob CETAS 341
12:00 - 1:00pm	Amy CAT 33	Amy CAT 33	Amy CAT 33	Amy CAT 33	Amy Max CAT 33	Jay Patel Jacob CETAS 341
1:00 - 2:00 p.m.			Jay Patel CETAS 215			Jay Patel Jacob 1:15 CETAS 341
2:00 - 3:00 p _o m _e ,			Jay Patel, Jacob, Amy CETAS 215		Jay Patel CETAS 215	Jay Patel CETAS 341
3:00 - 4:00 p.m.		Jay Patel CETAS	3:15 Jay Patel CAT 33	Jay Patel CETAS 341	Jay Patel CETAS 215	
4:00 p.m 5:00 p.m.		341			Jay Patel CETAS 215	

Alan Eady – President
Rogers Jonathan – Vice President
David Browning – Treasurer
Henle Edward – Secretary
Neou Lechere – representing women in IT
Providing free tutoring

IT HUB CLUB - STUDENT ORGANIZATION



1.T. Hub tutoring will benefit young professionals in both engineering and information technology fields to help provide a better understanding of how to succeed in a professional team environment when transitioning from a college environment to join the workfore. This nurturing environment will help to expand student knowledge in mechanics, applied engineering, and programming, that creates a networking opportunity for internships and job opportunities. Industry presentations and company tours areoffered for grades K-12 and college students, scholarships, job opportunities and internship postings.

Officers:	Monday:	9:00 a.m 1:00 p.m. CAT 33
President: Clayton McDowell cjmcdowellcomputers@gmail.com	Tuesday:	9:00 a.m 1:00 p.m. CAT 33
Vice President: Maxmilian Boyson mboyson@my.chattanoogastate.edu Secretary: John Goggans	Wednesday:	9:00 a.m 1:00 p.m. CAT 33, 1:00 p.m. 3:00 p.m. CETAS 215, 3:15 p.m 4:15 p.m. CAT 33
johngogganss@gmail.com Treasurer: Michael Szemborski m szemborski@yahoo.com	Thursday:	9:00 a.m 1:00 p.m. CAT 33, 3:30p.m - 5:00 p.m. CETAS 341
Programming Specialist: Jacob <u>Dilson</u> dilson.jacob@gmail.com	Friday:	9:00 a.m 1:00 p.m. CAT 33, 2:00p.m - 5:00 p.m. CETAS 215
Engineering Specialist: Andrew Jones asjones4@my.chattanoogastate.edu	Saturday:	8:00 a.m. – 3:00 p.m. CETAS 341
Faculty Advisor: Handi Mohamed (Faculty) Handi Mohamed (Faculty) Handi mohamed Goldentanogastata edu 155; 421.857.330 Moderator: Jeff Schneider (Faculty) Leff Schneider (Faculty) Left Schneider (F	Technology, Engineering & Inf Chattanooga State 4501 Amnicola Hi Chattanooga, TN Ph: 423.697.4756	alli (Faculty) / Assistant Professor, Computer Information formation Technologies Division Community College ghrway, CETAS-35-8,
https://www.facebook.com	/groups/ChattSta	nteITHuh/



Mardigras Fund raiser PC tune up for \$5.00

Social Media and **News Papers**



Seniors were paired with college student mentors to build computer skills. ChattState student John Jones is shown with

Chattanooga State's Con-identify their current techmation Systems class to learning computer skills. conduct the Cyber Seniors For more information - Service Learning Project, about classes offered This project provided one-through Continuing Educaon-one computer skills to tion or to learn more about participants by partnering other service learning projthem with a college student mentor. The students interviewed the participants to

Characteristics and mology skills and provided Workforce Development customized computer skills Division recently collabo- training for each participant rated with Assistant Profes- based on their needs. This sor Savitha Pinnepalli's was a FREE opportunity for College Success in Infor- those who need assistance

Business And Industry Leaders Judge Chattanooga State Entrepreneur Projects

Saturday, January 27, 2018









Eight student teams participated in the Systems Analysis and Design class (CITC-2335) taught by Savitha Pinnepalli, Computer Information Technology department head and assistant professor, as they presented IT entrepreneurship projects to judges from the business and industry sector to complete the fall 2017 semester.

The project specifications challenged students to develop an IT company from scratch.

http://www.chattanoogan.com/2018/1/27/362305/Business-And-Industry-Leaders-Judge.aspx

ePortfolio

ePortfolios are digital collection of projects, coursework, extracurricular activities, volunteer experience, awards, references, letters of recommendation. ePortfolios are digital repositories of student work that transforms students' educational experiences.

https://chattanoogastate.digication.com/home_guest.digi

At Chattanooga State CIT department System Analysis and Design class, students:

- Create one page report with graphics, statistics, links and contact information (Infographic) of their IT entrepreneurship project.
- Create Resume, cover letter, references and thank you letter for future employers.
- Create LinkedIn Profile, Git Hub, twitter account, business card (adobe spark) as their social media marketing strategy.
- Conduct Self evaluation and Reflection.

Personal Branding

Personal Branding is really all about how we market ourselves. This includes our education, career, work ethics, interests, goals etc. Ongoing process of establishing our image, telling our story and a method of attracting like minded individuals.

- Conduct SWOT strength, weakness, opportunities and Threats analysis
- Set Career goals
- Identify what makes you unique
- Have an elevator speech
- Obtain Feedback from peers to correct your flaws
- Build an online presence using e-Portfolio, LinkedIn, Git Hub and Social Media marketing strategies.
- Be credible, authentic, consistent, embrace who you are and lead by example.
 (practice what you preach)

Networking

- Grow your network
- Join local groups with similar interests (meetups)
- Attend local events
- Introduce yourself to others (elevator speech)
- Make the right first impression
- Find or create your own opportunities
- Be confident
- Be prepared (e-portfolio)
- Volunteer, intern, be the first to offer help
- Get involved

Professional Online Presence

- Website
- About Me
- References
- Letters of Recommendation
- Certifications
- Awards
- Internships
- Projects
- Workshops/Conferences
- Volunteer Work
- Professional Memberships (ACM, IEEE, League, WIT etc.)

Career Exploration: Research skills needed in your field to get hired

- Job titles
- Skills needed
- Career Resources
- Salary databases
- Indeed
- Glassdoor
- Modis Salary Guide
- Monster



Securing a job interview and getting hired

- Interview questions :
 - About yourself (elevator speech)
 - Your education
 - Your experience in the field
 - What do you know about the company/ organization that you are interviewing?
 - What skills do you have?
 - What are your strengths, what is your weakness?
 - Team work makes the dream work. There is no I in TEAM.
 - Community service, volunteer work, hobbies, meet up groups, conferences, social media, travel, family.

Self Improvement and Professional Development-Never stop Learning!

- Personality test
 https://www.personalityperfect.com/test/free-personality-test/
- TED Talks
- Lynda.com
- Code Academy
- Khan Academy
- Udemy
- Educause
- LinkedIn
- Massive open online course MOOC's

Student Activities

- Skills USA Programming competitions
- IT HUB club activities
- Planning on Hackathon
- Planning PC Clinic
- Planning Field Trip to Oak Ridge National Labs, UTC sim center
- Cyber Seniors Service Learning
- CHATECH scholarships
- Course Integrated Projects

Students interviewing BILT





Resources

Cyber Threat maps

- https://www.fireeye.com/cyber-map/threat-map.html
- https://cybermap.kaspersky.com/
- https://www.deteque.com/live-threat-map/
- https://threatmap.fortiguard.com/
- https://threatmap.bitdefender.com/
- https://threatbutt.com/map/
- http://www.nationalsoftskills.org/top-10-soft-skills-for-success/

CONTACT

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https://www.chattanoogastate.edu

Discussion /Q & A / Feed Back





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Twitter: Savipine

