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Welcome to CS 1400!

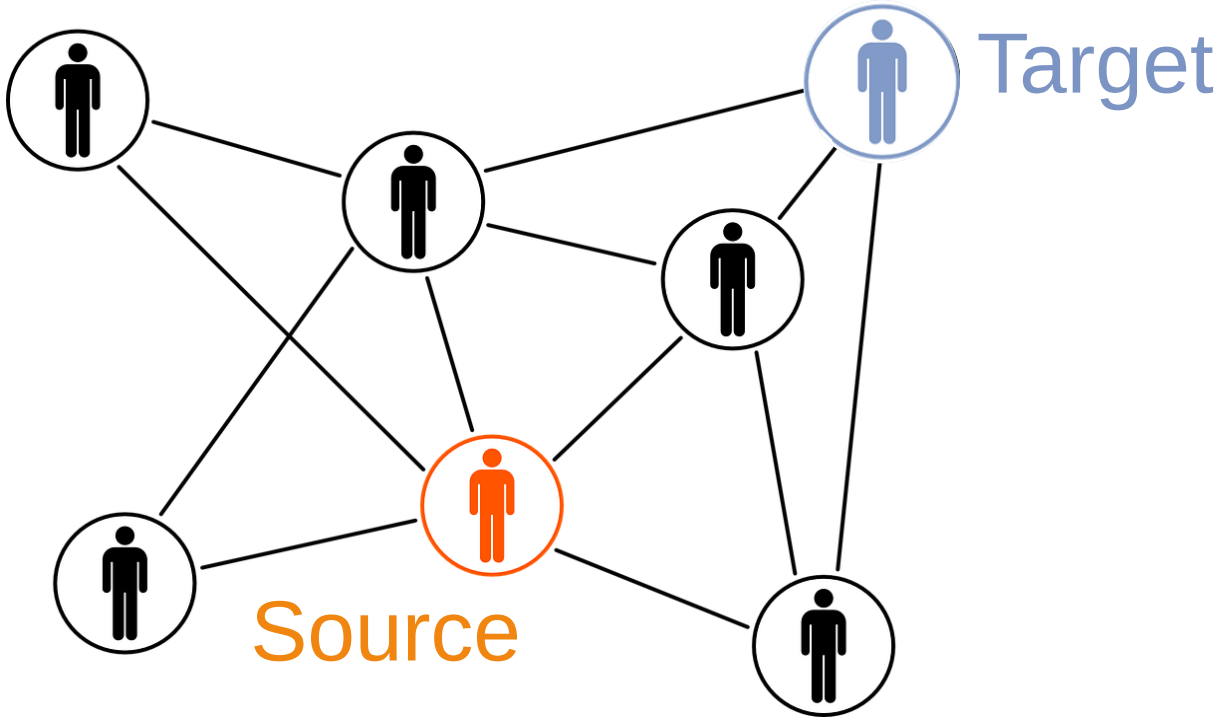
Introduction to Programming and Problem Solving

- My name is Ericsson Marin. I am an Assistant Professor of Computer Science at Cal Poly Pomona. I joined CPP in 2020.
- I am originally from Goiânia, Goiás, Brazil, where I got my BSc and MSc in Computer Science from the Federal University of Goiás.

Brazil

- My undergraduate senior project (completed in 2001) was to design and build a software system for hospital management. The system covered basic functionalities such as patient, doctor, and staff registration, appointment scheduling, billing, and medical record management.

- My Master's thesis (completed in 2013) was about building a social search system to recommend the most influential path between a source person and an unknown target individual around the world. It included a lot of AI search, learning, and data visualization.



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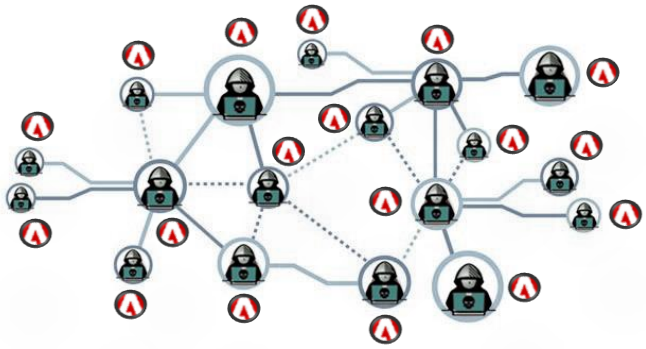
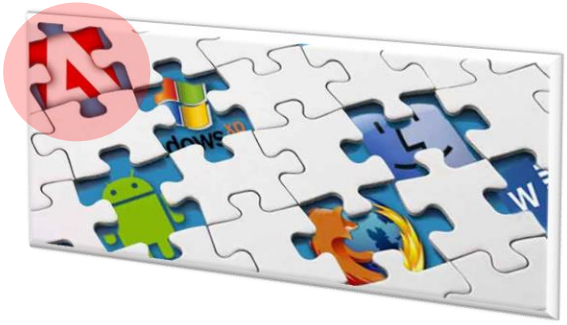
- I completed my Ph.D. in Computer Science at Arizona State University in 2020, conducting a research project that applies Artificial Intelligence (AI), Machine Learning, and Social Network Analysis into the Cybersecurity domain. My goal was to retrieve, analyze, and explore social interactions in darkweb hacker communities to find communication patterns that could signal future cyber-threats against organizations.





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CALSys LAB
Cyber
Adaptive
Learning Systems
Laboratory

Proactive Cyber-Threat Intelligence

Reactive cybersecurity

Proactive cybersecurity

Director: Dr. Ericsson Marin.

- I also worked in my own software development company from 2001 until 2010, building customized software with different purposes, such as:
  - learning management
  - financial management
  - dental office management
  - health insurance management
  - customer relationship management

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Why should you learn coding?

- “I think everybody should learn how to program a computer because it teaches you how to think” Steve Jobs: co-founder of Apple Inc.
- “The programmers of tomorrow are the wizards of the future. You’re going look like you have magic powers compared to everybody else” Gave Newell: President of Valve Corporation.
- “Even if you want to become a race car driver, play baseball, build a house … all of these things have been turned upside down by software” Drew Houston: co-founder and CEO of Dropbox.
- “Whether you are trying to make a lot of money or whether you just want to change the world, computer programming is an empowering skill to learn” Hadi Partovi – code.org creator.

https://www.youtube.com/watch?v=nKIu9yen5nc&t=77s

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Why coding in Java?

- Worldwide Adoption. “Java runs on 56+ billion devices worldwide” Oracle.
- Performance. “Well-optimized Java code is nearly as fast as lower-level languages like C++ and much faster than Python, PHP, etc.” Programiz.
- Flexibility “Java is platform independent and reusable” Tutorials Point.
- Popularity. “Java is one of the most popular programming languages out there” Codecademy.
- Simplicity & Security. “Be simple was one of the most important goals of Java designers, which is also a very secure language” Udemy.
- Applicability “Java is used for mobile, desktop, and web applications, web servers, games, database connection, big data processing, embedded systems, and much, much more!” W3Schools.
- Market. “Java represents a huge ecosystem and source of jobs. A recent search of jobs at Dice.com found nearly 12,000 Java-related jobs in the USA, compared to roughly 7,600 in Python.

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Syllabus Review …