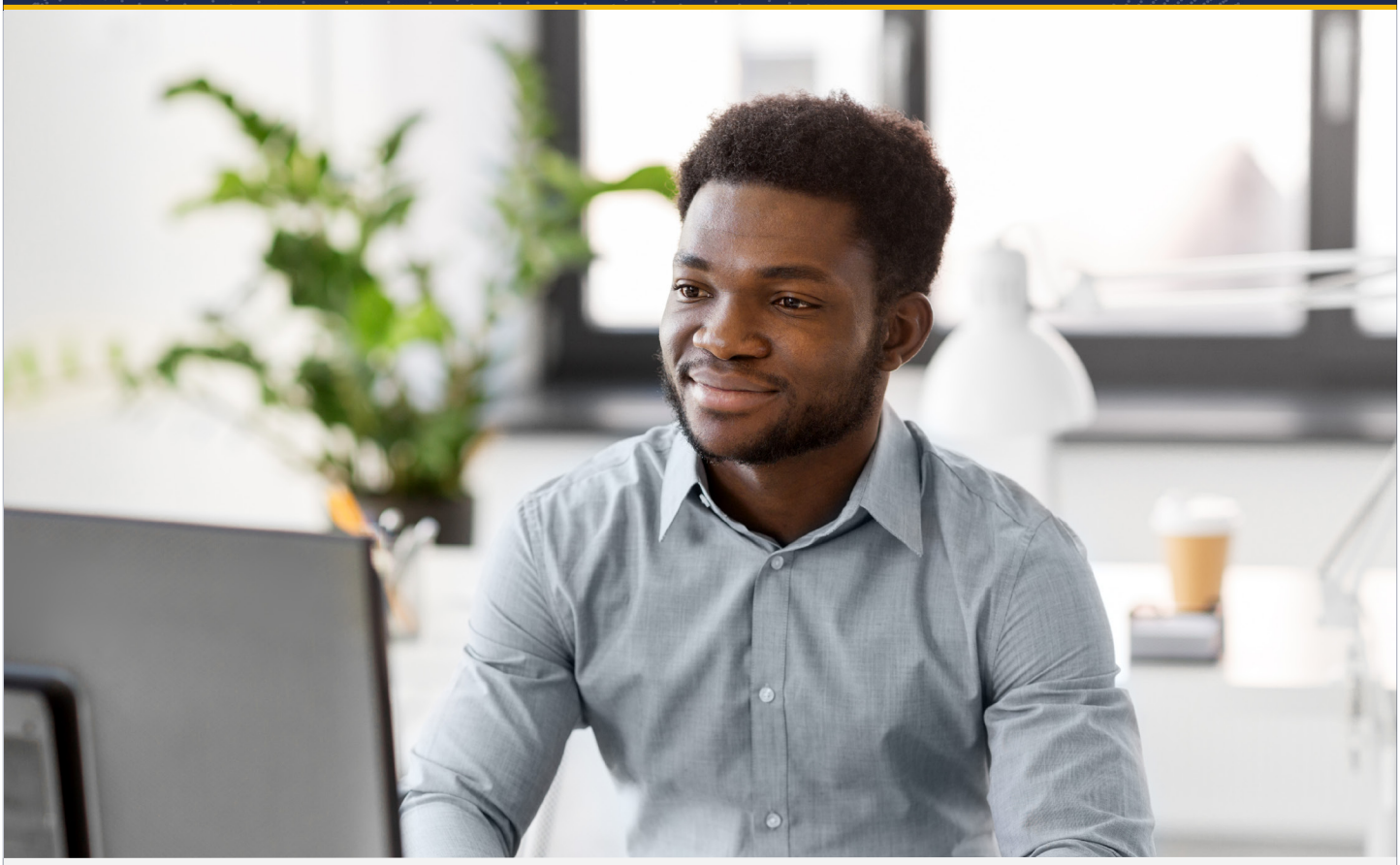
COMPUTER SCIENTIST



At the Federal Bureau of Investigation (FBI), our computer scientists work alongside technology professionals within a dynamic, state-of-the-art environment to prevent cyberattacks through counterterrorism, counterintelligence, fraud, identity theft, and other crimes. These programming experts regularly support special agents and intelligence analysts in their investigations by designing, developing, and testing tools and systems to protect the American people and our national security.

An Inside Look

Our computer scientists bring extensive experience in computer programming, quality assurance, and security protocols to address system integration/ architectural design issues. They develop and design component-based, multitier enterprise applications and web services, while analyzing and testing systems and recommending changes based on their findings.

Knowledge and Insight

Our computer scientists bring a wealth of knowledge in state of-the-art development techniques, including functional decomposition, structured design, and structured programming of high-level languages to incorporate into automated systems. They're often responsible for researching, developing, testing, and evaluating new software systems; leading

Design Review Board meetings to ensure overall integration and synthesis of applications, systems, and databases; conducting required analyses for database and data directory designs; applying both theoretical and application-oriented computer science methodologies; and formulating strategy for integrating U.S. government and FBI mission functions.

COMPUTER SCIENTIST—CYBER

FBI cyber computer scientists take on more investigative roles in their work. They may:

- Identify problems and provide guidance on improvements to established networks.
- Investigate difficult and unresolved problems involving highly complex network and telecommunications equipment software.
- Apply or adapt new theories, concepts, principles, standards, methods, or practices.
- Develop system modifications.
- Maintain and administer microcomputer operating systems.
- Oversee the implementation of new system hardware and software and monitoring the ongoing operation of a complex network environment.
- Resolve difficult and complicated problems related to microcomputer equipment, software, and configurations.

All Systems Go

A typical day for a computer scientist may entail performing advanced computer system and network procurement, installation, administration, and security implementation; troubleshooting and modifying existing cyber tools and methods to identify, preserve, and analyze digital evidence; and providing technical assistance in conducting interviews, searches, and other investigative and operational activity.

Given the evolving and increasingly sophisticated threats to our national security, our computer scientists often coordinate with private-sector agencies and other FBI divisions to lead in the resolution of technical and other relevant issues. Computer scientists serve as subject matter experts and testify in court when needed. Remaining current with major new advances in cybersecurity and technology is key, as computer scientists are frequently called to provide guidance, explain tools and methods, and address technological advances and practices on a national level.

Relentless Problem Solvers

Because our work is constantly changing and expanding to meet new challenges imposed by rapid advances in technology, terrorism, and intelligence threats, computer scientists serve on the front line of defense, contributing their valuable knowledge and expertise in researching and developing:*

- Algorithms
- Computational Tools
- Databases
- Data Structures
- Enterprise Architectures
- Experimental Design
- Network Security
- Programming
- Software Engineering

*Note: Computer scientist activities may vary by location.