Tyler J. Banks

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EXPERTISE	Computer Science, Software Engineering, Cyber Security, Machine Learning, Computational Neuroscience

EDUCATION

University of Missouri   Columbia, Missouri
2017 – Present
PhD in Computer Science
Current Student – Machine Learning and Computational Neuroscience focus
Advisor: Dr. Satish Nair

University of Missouri   Columbia, Missouri
2014 – 2016
Master of Computer Science
Thesis Project: CNN-Fold: Protein Fold Recognition by Deep Convolutional Neural Networks
Advisor: Dr. Jainlin Cheng

University of Texas at San Antonio   San Antonio, Texas
2009 – 2013
BBA Infrastructure Assurance (Cyber Security)
Minor: Computer Science
Advisor: Dr. Nicole Beebe

2011   Associate of ISC^2 CISSP
2009   Comptia A+, Network+, Security+

TEACHINNG EXPERIENCE

Broad range of topics covered as a Teaching Assistant over many years, with experience designing curriculum, developing new teaching tools, grading, overseeing labs, and lecturing

Fall 2018   Teaching Assistant, Department of Electrical Engineering and Computer Science, University of Missouri
• CMP_SC 4970W: Senior Capstone Design I (78 students): Writing intensive course
• Assistance in designing prototype senior projects and grading papers

Summer 2018   Teaching Assistant, Department of Electrical Engineering and Computer Science, University of Missouri
• ECE 4995: Undergraduate Honors Research in Computational Neuroscience (13 students)
• Full-time lecturer, assisted in development of curriculum

Fall/Spring 2016   Teaching Assistant, Department of Computer Science, The University of Missouri
• CMP_SC 4320: Software Engineering (50+ students)
• Supervised and assisted 14 team programming projects using Scrum software development

2012 - 2013   Undergraduate TA, Department of Business, The University of Texas at San Antonio
• Java I and Java II - Instructional aid for student programming homework and projects

INDUSTRY EXPERIENCE

More than 6 years working full-time in the professional computing field, with experience in cyber security, software engineering, and systems administration.

2017-Present   Cyber Security Analyst, The City of Columbia Government, Columbia, Missouri
• Nessus vulnerability management, policy writing, developing phishing training curriculum, SIEM development, UNIX systems, scripting (PowerShell and UNIX), and PKI/Cryptography

• Mentoring/teaching junior system administrators

2015-2017   Software Developer II, Shelter Insurance, Columbia, Missouri
                • Team based, interdepartmental programming projects using Git, Java, HTML, PHP,
                JavaScript SQL, jQuery, REST, and Spring/Boot.

2012   Cyber Security Intern, Pacific Northwest National Laboratory, Richland, Washington
                • Identified web-based attacks on the company network, developed scripts, documented policy

2009 - 2011   Computer/Media Technician, Lackland Independent School District, San Antonio, Texas
                • Supported staff, developed student identification system and databases
                • Maintained network technology (routers/switches), extensive Windows, UNIX, MS Office

RESEARCH
EXPERIENCE   ***Neural Engineering Laboratory Researcher***
2017 – Present   University of Missouri, Columbia, Missouri
                   • Contributed to a team of PhD student researchers aiming to analyze biologically realistic
                   neural networks. Projects include crustacean cardiac ganglion, hippocampus and micturition.
                   • Designed programs (SimAgent and SimBuilder) in Python/Tkinter that streamlined the
                   process of designing and running large scale neural simulations on supercomputers.
                   • Mentored an undergraduate senior in the design of his senior project – automation of
                   parameter selection in small networks and automated rejection sampling
                   • Maintaining CyNeuro.org website (PHP, HTML, CSS)

2011 – 2013   ***Research Assistant***
                   University of Texas at San Antonio, San Antonio, Texas
                   • Developed offsite malware analysis facilities to study statistical prevalence of malicious code
                   • Custom software and scripts (Bash, Python) were written to facilitate the needs of a client

AWARDS/   • Alumni - Dr. Jainlin Cheng's Bioinformatics, Data Mining and Machine Learning Lab, 2016
DISTINCTIONS   • NSF SFS Grant Recipient 2011 – Financed final two years of undergraduate education

PUBLICATIONS   Latimer B, Chen Z, **Banks T**, Ho D, V Kanta Chantzi, D B Headly, D Pare, Nair SS,
AND POSTERS   "Artificial neural networks for prediction of the local field potential," Society for Neuroscience
                   Poster, San Diego, Ca, Nov 7, 2018.

                   Banks T, Wang J, Samarth P, Kick D, Schulz DJ, Nair SS, "Structure of large cells in crab
                   cardiac ganglion - a computational study," Society for Neuroscience Poster, San Diego, Ca,
                   Nov 5, 2018.

                   Latimer B, **Banks T**, Ankathatti A, Calyam P, Nair SS, "Software automation for biologically
                   realistic neuro big data simulations," Big Data Neuroscience Workshop: Organized by the
                   Advanced Computational Neuroscience Network (ACNN), Cleveland, OH, Sept 6-7, 2018.

SKILLS AND QUALIFICATIONS

Computing skills: Programming, Computer Science, Machine learning, Artificial Intelligence, Algorithms
Languages: Java, Python, C, C++, C#, Sed, Awk, MATLAB, Octave, JavaScript, PHP, SQL, Cypher

• Public speaking, training, and speechwriting   • Knowledge of the University environment
• Outstanding written and oral communications   • Highly adaptable and capable of learning new areas quickly

PROFESSIONAL
ASSOCIATIONS
- Society for Neuroscience student member
- IEEE member