

Patrick H. Lockett

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<https://www.linkedin.com/in/patrick-rockett-b937b155>

Areas of Research

Complex System Analysis
Machine Learning and AI
Neuroscience
Nonlinear Dynamics
Data Driven Modeling

Skills

Programming C++, JAVA, LaTeX, MATLAB

Education

University of South Alabama

PH.D. IN COMPUTING (ABD)

Mobile AL

2014 - 2018

University of South Alabama

B.S. IN APPLIED MATHEMATICS AND STATISTICS

Mobile AL

2006 - 2014

Publications

JOURNAL

Dissimilarity of Graph Invariant Features from EEG Phase-space Analysis

PATRICK LUCKETT, J. TODD McDONALD, AND LEE HIVELY. COMPUTER ENGINEERING AND INFORMATION TECHNOLOGY.

2017

CONFERENCE

Neural Network Analysis Of System Call Timing For Rootkit Detection

PATRICK LUCKETT, J. TODD McDONALD, AND JOEL DAWSON. CYBERSECURITY SYMPOSIUM (CYBERSEC) IEEE.

2016

Seizure Detection via Distance Traversal of Phase-Space Graphs

PATRICK LUCKETT, J. TODD McDONALD, AND LEE HIVELY. IEEE BIOMEDICAL AND HEALTH INFORMATICS CONFERENCE.

2016

Attack-graph Threat Modeling Assessment of Ambulatory Medical Devices

PATRICK LUCKETT, J. TODD McDONALD, AND WILLIAM BRADLEY GLISSON. HAWAII INTERNATIONAL CONFERENCE ON SYSTEM SCIENCES (HICSS).

2016

Rootkit Detection through Phase Space Analysis of Power Voltage Measurements

JOEL DAWSON, J. TODD McDONALD, JORDAN SHROPSHIRE, A. JOEL, TODD ANDEL, PATRICK LUCKETT, LEE HIVELY, AND R. TODD. TO APPEAR IN PROCEEDINGS OF THE 12TH IEEE INTERNATIONAL CONFERENCE ON MALICIOUS AND UNWANTED SOFTWARE (MALCON 2017).

2017

Hypergraphs in Phase Space: A New Method for Predicting Epileptic Seizures

PATRICK LUCKETT, ELENA PAVELESCU, J. TODD McDONALD, LEE HIVELY, AND JUAN OCHOA. IEEE SOUTHEASTCON.

2018

IN PROGRESS/UNDER REVIEW

Identifying Stealth Malware Using CPU Power Consumption And Learning Algorithms

PATRICK LUCKETT, J. TODD McDONALD, WILLIAM BRADLEY GLISSON, RYAN BENTON, JOEL DAWSON, AND BLAIR DOYLE. UNDER REVIEW, JOURNAL OF COMPUTER SECURITY.

2018

Predicting State Transitions in Brain Dynamics Through Spectral Distance of Phase Space Graphs

PATRICK LUCKETT, ELENA PAVELESCU, J. TODD McDONALD, LEE HIVELY, AND JUAN OCHOA. UNDER REVIEW, JOURNAL OF COMPUTATIONAL NEUROSCIENCE.

2018

Metabolomic Sepsis Outcomes Prediction Score Outperforms Lactate In Acute Respiratory Failure

RAYMOND J. LANGLEY, LORI FLORES, J. WILL THOMPSON, PATRICK LUCKETT, ROBERT P. MOHNEY, J. LOVATO, D. CLARK FILES, RYAN BENTON, KEVIN S. HARROD AND PETER E. MORRIS. IN PROGRESS.

2018

DeepPhase: A Deep Learning Approach to Phase Space Analysis for Seizure Detection

PATRICK LUCKETT, THOMAS WATTS, J. TODD McDONALD, AND LEE HIVELY. IN PROGRESS.

2018

Grants

The SUDEP Institute Challenge: Developing Predictive Biomarkers of Epilepsy Seizures

EPILEPSY FOUNDATION

2016

The SUDEP Institute Challenge: Developing Predictive Biomarkers of Epilepsy Seizures

EPILEPSY FOUNDATION

2017

Secure and Trustworthy Cyberspace (SaTC): Phase Space Detection of Malware Execution Using Side-channel Power Analysis

NATIONAL SCIENCE FOUNDATION (UNDER REVIEW)

2018

Professional Experience

Washington University School of Medicine Department of Neurology

POSTDOC RESEARCH ASSOCIATE

St. Louis MO

7/2018 - Current

- Perform research through data analysis and publish findings.
- Review papers for journals and conferences.
- Research funding and prepare grant submissions.

University of South Alabama

RESEARCH/GRADUATE ASSISTANT

Mobile AL

8/2015 - 6/2018

- Perform various task to aid professors and full-time staff with academic research.
- Review papers for journals and conferences.
- Research funding and prepare grant submissions.
- Mentor and guide undergraduate research.

Walgreens

ASSISTANT STORE MANAGER

Mobile AL

6/2013 - 4/2016

- Review financial statements, sales and activity reports, and other performance data to measure productivity and goal achievement and to determine areas needing cost reduction and program improvement.
- Manage staff, prepare work schedules, and assign specific duties.
- Supervised over 30 employees.

City of Mobile Police Department

Mobile AL

POLICE OFFICER

07/2004 - 12/2009

- Provide for public safety by maintaining order, responding to emergencies, protecting people and property, enforcing motor vehicle and criminal laws, and promoting good community relations.
- Testify in court to present evidence or act as witness in traffic and criminal cases.
- Full time member of the Tactical Response Unit.

Winn Dixie

Mobile AL

ASSISTANT STORE MANAGER

3/2000 - 7/2004

- Review financial statements, sales and activity reports, and other performance data to measure productivity and goal achievement and to determine areas needing cost reduction and program improvement.
- Manage staff, prepare work schedules, and assign specific duties.
- Supervised over 100 employees.

Professional Activities

Presenter

UNIVERSITY OF SOUTH ALABAMA SYSTEM PROTECTION AND EXPLOITATION RESEARCH GROUP

2016-2018

Presenter

UNIVERSITY OF SOUTH ALABAMA DATA SCIENCE ENSEMBLE RESEARCH GROUP

2016-2018

Presenter

UNIVERSITY OF SOUTH ALABAMA DIGITAL FORENSICS RESEARCH GROUP

2016-2018

Manuscript Reviewer

JOURNAL OF COMPUTER ENGINEERING & INFORMATION TECHNOLOGY

2017

Manuscript Reviewer

IEEE SOUTHEASTCON CONFERENCE

2018

Track Chair: Health Information and Healthcare

IEEE SOUTHEASTCON CONFERENCE

2018

Honors & Awards

2014 **Recipient**, University of South Alabama Department of Mathematics and Statistics Sushila Mishra Memorial Scholarship

2016 **Recipient**, University of South Alabama School of Computing PhD Scholarship

2016 **Winner**, SUDEP Institute Challenge: Developing Predictive Biomarkers of Epilepsy Seizures

2017 **Finalist**, SUDEP Institute Challenge: Developing Predictive Biomarkers of Epilepsy Seizures

References

Dr. J. Todd McDonald

UNIVERSITY OF SOUTH ALABAMA, 850-322-7866, JTMCDONALD@SOUTHALABAMA.EDU

Dr. Lee Hively

OAK RIDGE NATIONAL LABORATORY (RETIRED), 719-419-7797, LEE.HIVELY314@COMCAST.NET

Dr. Ryan Benton

UNIVERSITY OF SOUTH ALABAMA, 478-461-5107, RBENTON@SOUTHALABAMA.EDU