



ELECTRICAL ENGINEERING
SAN JOSÉ STATE UNIVERSITY | COLLEGE OF ENGINEERING

The Semi-Annual

Student Project Symposium

Tuesday

May 3rd, 2016

11:00 - 5:00 pm

Student Union Ballroom

Automated Adaptive Directed Evolution Chamber(AADEC)*Abdulaziz Alyaseen, David Coustier, Krut Patel, David Skiles, Navjot Singh, BSEE Advisor: Morris Jones 1***Autonomous Electric Vehicle Inductive Charger (AEVIC)***Bipin Dhaliwal, Gino Bautista, Jaskirat Singh, BSEE Advisor: Keith Perry..... 2***Cognitive Exercise Tool (CET)***Ovi Chityat, Franz Dill, BSEE Advisor: David Parent 3***CubeCab Spartan Spear Driver System***Rizalino de Guzman, Anthony Nguyen, Buwen Pan, Gezhe Peng, Peter Yim, BSEE Advisor: David Parent 4***CubeCab Telemetry Team***Steven Huang, Paul Jacob, YuChang Liang, Luis Molina, BSEE Advisor: Robert Morelos-Zaragoza..... 5***Dynamic Stereo Mixing via Optical Performer Tracking***Sam North, Marc Messier, Julian Andrade, BSEE Advisor: Robert Morelos-Zaragoza 6***Electrical Stimulation of Extraocular Muscles for the Treatment of Strabismus***William Lai, Augustus Ma, Ahmad Naser, Anthony Newlin, Omid Poornasir, BSEE Advisor: Sotoudeh Hamed-Hagh..... 7***Independent Wheel Steering Optimization for Rover Operation***Colin Chen, Tai Tran, BSEE Advisor: Ping Hsu..... 8***Perovskite Solar Cells***Tom George, Westley See, BSEE Advisor: Abraham Wolcott 9***Smart Headboard***Jeff Bontilao, Matt Callaway, Ramez Salman, Rupinder Singh, Jerin Avarachan, BSEE Advisor: Sotoudeh Hamed-Hagh 10***Smart Indoor Watering***Anushka Sathyawadi, Dhanushka Giragama, Nhan Tran, Toan Phan, BSEE Advisor: Sotoudeh Hamed-Hagh 11***Smart Mirror***Adnan Dzebic, Hardeep Kalsi, BSEE Advisor: Sotoudeh Hamed-Hagh Co-Advisor: David Parent 12***Smart Sensor Communication Modules using a Mesh Network***Vincent Chao, Kelvin Huynh, Kelly Ros, Chhara Sieng, Jimmy Wong, BSEE Advisor: Robert Morelos-Zaragoza 13***Sustainable Mobility System for Silicon Valley (SMSSV) Solar Interface Team***Mitch Hatfield, Matt Holst, Mehnaz Mahbub, BSEE Advisor: Buff Furman 14***ZED Power Meter***David Nguyen, Elizabeth Lopez, ZhiTeng Yan, BSEE Advisor: Ping Hsu 15***10Gbps Full Rate PLL based CDR in 45nm CMOS***Chengyuan Zhong, MSEE Advisor: Shahab Ardalan 16***5.8GHz CMOS Gilbert Cell Mixer Design for RF Receivers***Rohit Mane, MSEE Advisor: Sotoudeh Hamed-Hagh 17***A 28Gb/s Half-rate Sampled 5-Tap Look Ahead Equalizer with Analog Front-end in 45nm Technology***Priyanka Agrawal, MSEE Advisor: Shahab Ardalan 18***A novel approach for Detection and Elimination of Black Hole Attack using Advanced DRI table in Ad hoc environment***Rahul Jain Ajay Kumar, MSEE Advisor: Chao-Li Tarng 19***A Novel Approach for Run-Time Dynamic Reconfiguration of the UVM Environment***Shuchi Agrawal, Yashmita Thapa, MSEE Advisor: Morris Jones..... 20***Active Web based HoneyPot for Attacker Identification***Harish Kumar Krishnan Hemanth Kumar Punnium Veerappan Raja Veerappan Shanmugam FNU Suganya Kanagavel, MSEE Advisor: Chao-Li Tarng .. 21*

Analysis Of DDoS Attacks <i>Shrinath Thube, Abhijeet Suryawanshi, MSEE Advisor: Frank Lin</i>	22
Analysis of ECMP in Data Center Networks <i>Frenil Randeria, Akanksha Khilare, MSEE Advisor: Balaji Venkataraman</i>	23
Analysis of SDN based ECMP for Data Center Networks <i>Nirmal Karia, Dharmesh Bhanushali, MSEE Advisor: Balaji Venkataraman</i>	24
Android App for Phishing Email Detection <i>Aditya Kushwaha, Jugraj Singh, Lakshmi Devakumar, Priyanka Chaudhary, MSEE Advisor: Chao-Li Tarng</i>	25
Application Aware Routing in DCN using SDN and Honeypots <i>Bhushan Jadhav, Yash Adukia, MSEE Advisor: Nader Mir</i>	26
Application of Link Aggregation Control Protocol in Data Centers <i>Sunny Patel, Merline George, MSEE Advisor: Nader Mir</i>	27
Automotive Speed Control <i>Sameena Parvin Meer, MSEE Advisor: Morris Jones</i>	28
Bot Analysis and Detection <i>Amruta Pimpalkhare, Manali Shah, Pradyumna Karpuram, Supriya Srinivas Pradeep, MSEE Advisor: Chao-Li Tarng</i>	29
Cascaded Pseudo Random Number Generator <i>Anurag Sabnis, Gaurav Shetty, MSEE Advisor: Morris Jones</i>	30
CDN(Content Delivery Network) Design & Deployment over Cloud Services <i>Bhargavi Sharma, Chintan Vadgama, MSEE Advisor: Balaji Venkataraman</i>	31
Community based Verification <i>Vinayakumar Bharbhari, Prachi Parekh, MSEE Advisor: Morris Jones</i>	32
Container Networking and Analysis Of Security <i>Preyansh Shah, Shekhar Agrawal, MSEE Advisor: Frank Lin</i>	33
Container Networking and Analysis Of Security <i>Kaustubh Band, Meet Dhabalia, MSEE Advisor: Frank Lin</i>	34
Control Strategy for Matrix Converter for PMSG based Grid-Tied Wind Turbine. <i>Varun Avasthy, Milan Badjatya, MSEE Advisor: Ping Hsu</i>	35
Correlation of White Fork Delays & Double Spending on Bitcoin Cryptocurrency <i>Keval Doshi, Sridhar Gude, MSEE Advisor: Jalel Rajeb</i>	36
Deep Neural Networks for License Number Plate Recognition <i>Dhruven Shah, MSEE Advisor: Chang Choo</i>	37
Design & Implementation of ONFI 4.0 Compliant NAND FLASH Memory Controller <i>Sowmya Baskaran, Sandhya Varadarajan, MSEE Advisor: Thuy Le</i>	38
Design and Analysis of a Low Power, 8 bit, 500 KS/s SAR ADC, for Bio-Medical Implant Devices <i>Ehsan Mazidi, MSEE Advisor: Shahab Ardalan</i>	39
Design and Implementation of 10 Gigabit Ethernet MAC Core <i>Vivek Munivenkatappa, Rithesh Raj, Kurubarahalli Nataraju, MSEE Advisor: Thuy Le</i>	40
Design and Implementation of Cache Controller IPCORE <i>Sumeet Bhagwat, MSEE Advisor: Thuy Le</i>	41
Design and Implementation of Low Power UART <i>Anuhya Nagireddy, Hima Naini, MSEE Advisor: Thuy Le</i>	42
Design and Implementation of Miller Modulated Subcarrier Encoding for RFID Application	

<i>Saranya Chezhan, MSEE Advisor: Robert Morelos Zaragoza</i>	43
Design and Implementation of Reconfigurable Test suite for SDRAM controller based on UVM	
<i>Mathangi Sridaran, Iyswarya Sithanathan, MSEE Advisor: Thuy Le</i>	44
Design and Implementation of SPI Core	
<i>Likith kumar Manchukonda, Varsha Krishnan, MSEE Advisor: Thuy Le</i>	45
Design and Simulation of Server Routed Data Center with inclusion of S.D.N.	
<i>Rajya Lakshmi, Antarpreet Sandhu, MSEE Advisor: Nader Mir</i>	46
Design of a TDC-based Digital PLL-based Clock and Data Recovery (CDR)	
<i>Muhammad Ali Khaliq, MSEE Advisor: Shahab Ardalan</i>	47
Design of AXI-APB Interface	
<i>Chirag Mehta, Rohan Parab, MSEE Advisor: Morris Jones</i>	48
Design of RF Transmitter for Bluetooth Applications	
<i>Sudarshan Srirangam, James Lai, MSEE Advisor: Sotoudeh Hamed-Hagh Co-Advisor: Marshall Wang</i>	49
Detection of DDoS Attack in SDN	
<i>Ramya Vadlamani, Deepesh Kumar, MSEE Advisor: Morris Jones</i>	50
Detection of Malwares using Honeybot	
<i>Vaibhav Anil Vora, Akshay Parab, Dinkar Patil, MSEE Advisor: Chao-Li Tarng</i>	51
Development of Database and Graphical User Interface for Centrally Monitored Network	
<i>Shivesh Rehani, Shriram Tindivanamsridharan, MSEE Advisor: Pedro Santacruz</i>	52
Development of UVM based reconfigurable verification suite for SPI protocol	
<i>Dhasna Gomasree, Prudhvi Madasu, MSEE Advisor: Thuy Le</i>	53
Distributed DoS (DDoS) Attack in Software Defined Networks	
<i>Chani Agarwal, Shwetha Mallappa, MSEE Advisor: Morris Jones Co-Advisor: Jalel Rejeb</i>	54
Dynamic Link Cost Function for QoS Routing using OpenFlow	
<i>Harsh Thanki, Parth Khokhani, MSEE Advisor: Pedro Santacruz</i>	55
Dynamic Path Optimization in Software Defined Networks	
<i>Sudheer Kandula, Snehal Hiwase, MSEE Advisor: Pedro Santacruz</i>	56
Enabling Dynamic Functionalities across Internet of Things using Self Organizing Networks	
<i>Jeevan Kishore Mahalingappa, Pavan Prakash, MSEE Advisor: Frank Lin</i>	57
Enhancing Scalability and Performance in Software Defined Networks: An OpenDaylight (ODL) Case Study	
<i>Priyanka Neelakrishnan, MSEE Advisor: Pedro Santacruz</i>	58
Experimental Analysis of Selfish Mining & Double Spending in Bitcoin Cryptocurrency	
<i>Ninad, Chaubal, Shaunak, Deshmukh, MSEE Advisor: Jalel Rejeb</i>	59
FPGA Implementation of Histogram Oriented of Gradient for Face Detection	
<i>Wenbo Mao, Taowu Wen, MSEE Advisor: Youngsoo Kim</i>	60
GPU Acceleration of Harris Corner Detection & Comparison with CPU	
<i>Vinay Patel, Manik Trehan, MSEE Advisor: Chang Choo</i>	61
Handling different Traffic scenarios for Improved Network Performance using Software Defined Networking	
<i>Mithil Patel, Devarshi Tank, MSEE Advisor: Pedro Santacruz Co-Advisor: Jalel Rejeb</i>	62
Harris Corner detector and Weber Local descriptor based Object edge detection	
<i>Aniruddha Kawade, Shirish Bhagnani, MSEE Advisor: Chang Choo</i>	63
Heuristic Based Malware Detection Using Behavioral Analysis	
<i>Saurabh Desai, Kshitija Mane, Saumya Sheth, Pratik Shah, MSEE Advisor: Chao-Li Tarng</i>	64

Impact of Load Balancing Algorithms on Live Video Streaming <i>Arpita Vartak, Zenable Soans, MSEE Advisor: Morris Jones Co-Advisor: Thuy Le</i>	65
Impact of Load Balancing Algorithms on Live Video Streaming <i>Geeta Atul Kulkarni, Pooja Bhamare, MSEE Advisor: Morris Jones Co-Advisor: Thuy Le</i>	66
Implementation of AMBA-AXI4 soft core <i>Nikesh Erode Satish, Ramnath Donthi Sanathkumar, MSEE Advisor: Thuy Le</i>	67
Implementation of QoS and IDS/IPS system using OpenDaylight Controller <i>Santosh Kowtal, Hrishikesh More, MSEE Advisor: Balaji Venkataraman</i>	68
Implementation of Verification Ip for Wishbone Dma Bridge Core <i>Kaushik Narayanan, Lakshmi Pradha Ranganathan, MSEE Advisor: Thuy Le</i>	69
Internet of Things Security <i>Bhumika Patel, Rohan Benjamin, MSEE Advisor: Balaji Venkataraman</i>	70
Limited AES for Low-Power IoT <i>Shrinivas Naik, Shraddha Patil, MSEE Advisor: Morris Jones</i>	71
Load Balancing in SDN using OpenDaylight Controller <i>Nitya Gudi, Prachi Yadav, MSEE Advisor: Balaji Venkataraman</i>	72
Low Power CORDIC Design of Trigonometric Functions <i>Akshay Pai, Prashant Magadum, MSEE Advisor: Morris Jones</i>	73
Low Power Parallel Architecture for Motion Estimation <i>Vikram Mohite, Nikhil Navghare, MSEE Advisor: Morris Jones</i>	74
Minimization of ARP Broadcast Traffic in the Data Center Network using SDN <i>Ayush Sharma, Sarang Shende, MSEE Advisor: Balaji Venkataraman</i>	75
Mitigation of Attacks in IoT Network <i>Praktan Taiwade, Pratik Raichur, MSEE Advisor: Morris Jones Co-Advisor: Thuy Le</i>	76
Multitenancy and Virtualization in Data Center Networks <i>Ankita Negi, Vivek Dixit, MSEE Advisor: Nader Mir</i>	77
Multi-tenancy in Data Centre Networks using SDN with QoS Enhancement <i>Mouna Reddy Pishati, Archana Hariharan, MSEE Advisor: Nader Mir</i>	78
Neural Network Applied to Resource Allocation in a Cognitive Radio Network <i>Benjamin Neel, MSEE Advisor: Birsen Sirkeci</i>	79
Noise Cancellation in ECG signals by Implementation of Adaptive filters on FPGA. <i>Nikhil Prabhu, Mohit Gogri, MSEE Advisor: JeongHee Kim</i>	80
Parameterized Verification Environment of AXI Protocol in UVM <i>Mohit Gupta, Utkarsh Kumar, MSEE Advisor: Thuy Le</i>	81
Performance Analysis of Convolutional Neural Networks for Digit Recognition using MNIST Dataset <i>Nikita Dabir, MSEE Advisor: Chang Choo</i>	82
Performance Analysis of Histogram Equalization and Harris Corner Detection on GPU and CPU <i>Meghana Bharadwaj, MSEE Advisor: Chang Choo</i>	83
Performance Analysis of Mersenne Twister as PRPG in Logic BIST <i>Venkat Abilash Reddy Nerallapally, MSEE Advisor: Thuy Le</i>	84
Performance Evaluation of Distributed Arithmetic Based Matrix Multiplier on FPGA <i>Gaurav Bhangle, Priyanka Ravindran, MSEE Advisor: Chang Choo</i>	85
Performance Evaluation of PRPGs in Logic BIST <i>Vani Srinivasa, Sai Nandan Roy Avasarala, MSEE Advisor: Thuy Le</i>	86

Phase-Lock Loop	
<i>Pradnesh Malgunkar, Amey Jain, MSEE Advisor: Sotoudeh Hamed-Hagh</i>	87
PLL Synthesizer design for Sliding-IF architecture for Bluetooth transceiver	
<i>Hailiang Xie, Jun Qi, MSEE Advisor: Sotoudeh Hamed-Hagh</i>	88
QoS based Dynamic Routing using OpenFlow	
<i>Ronak Shah, Sagar Rathod, MSEE Advisor: Pedro Santacruz</i>	89
Real Time Corner Detection IP using Vivado HLS and Xilinx SoC	
<i>Roshan Malviya, Arpit Singhal, MSEE Advisor: Chang Choo</i>	90
Reduction Of Broadcast Traffic Using SDN in Data Center Networks	
<i>Sujatha Ramakrishnan, Sameer Nandu, MSEE Advisor: Balaji Venkataraman</i>	91
Re-Usable UVM Verification test head for the March Algorithm for testing Flash Memory	
<i>Nisha Ravichandran, Sukaniyaa Govindankutty Menon, MSEE Advisor: Morris Jones</i>	92
Secure and Scalable IoT-based Healthcare Network	
<i>Shreya Singh, Sailee Korgaonkar, MSEE Advisor: Chao-Li Tarng Co-Advisor: Jalel Rejeb</i>	93
Secure and Scalable IoT-based Healthcare Network	
<i>Nitin Lakhotia, Puneet Trivedi, MSEE Advisor: Chao-Li Tarng Co-Advisor: Mahesh Galgalikar</i>	94
Securing "Just Works" Pairing in Bluetooth Low Energy for "No Input/Display only" IOT devices	
<i>Sharan Patil, Avinash Ramesh, MSEE Advisor: Morris Jones Co Advisor: Thuy Le</i>	95
Securing Bluetooth Low Energy "Just Works Flow" in an IOT Environment	
<i>Neeraj Santosh Ramnathpur, MSEE Advisor: Morris Jones</i>	96
Securing Just Works Pairing and Connection in Bluetooth Low Energy for IoT environment	
<i>Amogh Vijayakumar, Chirag Lokesh Chandra, MSEE Advisor: Morris Jones, Co Advisor: Thuy Le</i>	97
Securing the Internet of Things through Network Bootstrapping	
<i>Tejas Nikam, Jwanita Monis, MSEE Advisor: Balaji Venkataraman</i>	98
Security Threats in IoT Networks	
<i>Nimish Kulkarni, Abhijit Salunkhe, MSEE Advisor: Morris Jones</i>	99
Simulation Of DDoS Attacks	
<i>Toshit Rane, Soumil Kulkarni, MSEE Advisor: Frank Lin</i>	100
Simulation of Network in GNS3 for Monitoring and Management	
<i>Saransh Burman, Komalpreet Kaur, MSEE Advisor: Pedro Santacruz</i>	101
Special Cell Checking Tool For Multi-Voltage SoC	
<i>Zan Zhan, MSEE Advisor: Morris Jones</i>	102
The Effect of Channel Estimation on Randomized Space-Time Coding	
<i>Behrouz Shayesteh, MSEE Advisor: Birsen Sirkeci</i>	103
The Implementation of Advanced High-performance Bus based DDR SDRAM Memory Controller Soft Core	
<i>Jimish Dodia, Mudit Kapoor, MSEE Advisor: Thuy Le</i>	104
The Implementation of UVM based Verification IP for Gigabit Ethernet	
<i>Mithun Narayan, Nithin Kumar Vedavathi Ramachandran, MSEE Advisor: Thuy Le</i>	105
Traffic Modeling and Generation for Commercial and Residential areas	
<i>Salina Dbritto, Mukesh Choudhary, MSEE Advisor: Pedro Santacruz</i>	106
True Random Number Generator	
<i>Bhavinkumar Makasana, Deepika Sharma, MSEE Advisor: Morris Jones</i>	107

Two-Dimensional Cache Architecture <i>Joe Joseph, MSEE Advisor: Morris Jones</i>	108
Utilizing IoT Sensor Networks to Monitor and Optimize Agricultural Systems <i>Ken Oyadomari, MSEE Advisor: Pedro Santacruz</i>	109
Verification of XGE MAC core using system Verilog and UVM <i>Sachin Shastri, MSEE Advisor: Morris Jones</i>	110
Verilog Lint Engine <i>Jay Shah, Praveen Waliitagi, MSEE Advisor: Morris Jones</i>	111
vFirewall provisioning using OpenStack <i>Madhukar Nayakbomman, Pratheek Bangera, MSEE Advisor: Pedro Santacruz</i>	112