Naga VS Raviteja CHAPPA

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EDUCATION

University of Arkansas, Fayetteville, AR
Ph.D. in Computer Engineering   *Jan 2021 - Present*
- Advisor: Asst. Prof. Khoa LUU

Purdue University, Indianapolis, IN
M.S. in Computer Engineering   *Aug. 2018 - May 2020*
- Masters thesis title: "Squeeze-and-Excitation SqueezeNext: An Efficient DNN for Hardware Deployment" [CCWC'20][MIC'20]
    · Advisor: Prof. Mohamed El-Sharkawy

RESEARCH EXPERIENCE

Computer Vision and Image Understanding Lab, Fayetteville, AR
Graduate Research Assistant   *Jan 2021 - Present*
- Conducting research on Group Activity Recognition [CVPRW'23, Under review for Pattern Recognit. journal], Visual Temporal Modelling [Sensors'24 Journal], Vision-Language Models [ISVC'24 Journal] and currently working on Foundational Models using TikTok data to help tobacco content moderation.

IoT Collaboratory, Indianapolis, IN
Graduate Research Assistant   *Jan. 2019 - May 2020*
- Enhanced accuracy and training speed for Neural Network Architectures using the PyTorch Framework, implemented on NXP iMX-RT1060 EVKB and NXP BlueBox. Developed ADAS systems based on these enhancements and contributed to Radar and Lidar sensors integration and simulation.

Defence Research Development Laboratory, Hyderabad, India
Instrumentation Engineering Intern   *May 2017 - July 2017*
- Project titled "Measurement of C-type Thermocouple Using K-type Signal Conditioning Unit" is done on MATLAB by using the standard thermocouple datasheet to obtain the respective thermocouple co-efficients, which are helpful for the conversion of one thermocouple output to other. Performed Static Analysis, Unit testing and Integration testing of this software.

SELECTED PUBLICATION

Journal Articles
- **Chappa, Naga Venkata Sai Raviteja**, Pha Nguyen, Thi Hoang Ngan Le, Page Daniel Dobbs, and Khoa Luu. Hatt-flow: Hierarchical attention-flow mechanism for group-activity scene graph generation in videos. *Sensors*, 24(11):3372, 2024
- **Chappa, Naga VS**, Pha Nguyen, Page Daniel Dobbs, and Khoa Luu. React: Recognize every action everywhere all at once. *arXiv preprint arXiv:2312.00188*, 2024
- **Chappa, Naga VS**, Pha Nguyen, A. N., H.-S. S., Xin Li, P. D., and Khoa Luu. SoGAR: Self-supervised Spatiotemporal Attention-based Social Group Activity Recognition. *Pattern Recognition*, 2023. **Under review**
- Ibsa Jalata, **Chappa, Naga Venkata Sai Raviteja**, Thanh-Dat Truong, Pierce Helton, Chase Rainwater, and Khoa Luu. Eqadap: Equipollent domain adaptation approach to image deblurring. *IEEE Access*, 10:93203–93211, 2022

Conference Papers
- **Chappa, Naga VS Raviteja**, Charlotte McCormick, Susana Rodriguez Gongora, Page Daniel Dobbs, and Khoa Luu. Advanced deep learning techniques for tobacco usage assessment in tiktok videos. In *2024 IEEE Green Technologies Conference (GreenTech)*, pages 162–163. IEEE, 2024
- **Chappa, Naga VS**, Pha Nguyen, Alexander Nelson, H.-S. S., Xin Li, Page Dobbs, and Khoa Luu. SPARTAN: Spatiotemporal Transformers Approach to Self-supervised Group Action Recognition. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, 2023. **3rd Place Award**
- Thanh-Dat Truong, **Chappa, Ravi Teja Nvs**, Xuan-Bac Nguyen, Ngan Le, Ashley PG Dowling, and Khoa Luu. Otadapt: Optimal transport-based approach for unsupervised domain adaptation. In *2022 26th international conference on pattern recognition (ICPR)*, pages 2850–2856. IEEE, 2022
- **Chappa, Ravi Teja NVS** and Mohamed El-Sharkawy. Deployment of se-squeezenext on nxp bluebox 2.0 and nxp i. mx rt1060 mcu. In *2020 IEEE Midwest Industry Conference (MIC)*, volume 1, pages 1–4. IEEE, 2020
- **Chappa, Ravi Teja NVS** and Mohamed El-Sharkawy. Squeeze-and-excitation squeezenext: An efficient dnn for hardware deployment. In *2020 10th Annual Computing and Communication Workshop and Conference (CCWC)*, pages 0691–0697. IEEE, 2020
- **Chappa, Ravi Teja NVS**, Bhaskara Rao Jammu, Maheswari Adimulam, and Maneesh Ayi. Vlsi implementation of ltssm. In *2017 International conference of Electronics, Communication and Aerospace Technology (ICECA)*, volume 1, pages 129–134. IEEE, 2017

Technical Skills	**Proficient:** Computer Vision, Deep Learning, Algorithms, Python, C/C++, LaTeX
	Familiar: Software Deployment, Embedded Systems, Mobile App Development

Honors and Awards

UARK Doctoral Student Presentation Travel Grant	*June 2023*
21st Century Research Leadership Award and Fellowship	*Aug 2022, Jan 2023*
Reginald R. "Barney" & Jameson A. Baxter Graduate Fellowship	*Jan 2024, Aug 2023*
Third Prize, CVSports Workshop at CVPR 2023	*June 2023*

Teaching Experience

Computer Architecture (Instructor: *Prof. David Andrews*)	
Graduate Teaching Assistant	*Jan. 2022 - May 2022*
Digital System Design (Instructor: *Prof. Lauren Christopher*)	
Graduate Teaching Assistant	*Aug. 2018 - Dec. 2018*

Professional Services

Conference Reviewer at CVPR 2024-2023, ICCV 2023, ECCV 2024, NeurIPS 2024
Journal Reviewer for IEEE Access, Multimedia Tools and Applications, IEEE Transactions on Circuits and Systems for Video Technology
Student Member at Institute of Electrical and Electronics Engineers

Invited Talks

SPARTAN: Self-supervised Spatiotemporal Transformers Approach to Group Activity Recognition, IEEE/CVF CVPR Workshop - CVSports *June 2023*