Neehar Peri

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Education

B.S. in Computer Engineering, University of Maryland - College Park GPA: 3.92
QUEST Honors Program *Expected May 2021*

Publications

- Deep k-NN Defense against Clean-label Data Poisoning Attacks — Preprint
  N Peri*, *N Gupta**, *WR Huang**, *L Fowl, C Zhu, S Feizi, T Goldstein, JP Dickerson*
- The Devil is In the Details: Self-Supervised Attention for Vehicle Re-ID — Preprint
  *P Khorramshai**, ***N Peri****, *JC Chen, R Chellappa*
- Towards Real-Time Systems for Vehicle Re-ID, Multi-Camera Tracking, and Anomaly Detection — CVPRW 2020†
  N Peri*, *P Khorramshahi**, *SS Rambhatla**, *V Shenoy, S Rawat, JC Chen, R Chellappa*
- Attention Driven Vehicle Re-ID and Unsupervised Anomaly Detection for Traffic Understanding — CVPRW 2019†
  P Khorramshahi, ***N Peri****, A Kumar, A Shah, R Chellappa*
- A Dual Path Model with Adaptive Attention for Vehicle Re-ID — ICCV 2019†
  P Khorramshahi, A Kumar, ***N Peri****, SS Rambhatla, JC Chen, R Chellappa*

*Equal Contribution
†Selected for Oral Presentation

Work Experience

Mukh Technologies, College Park, MD, *Research Intern* *Aug 2020 – Present*
- Leading research on improving facial recognition performance across domain shift with large-scale data
- Building facial recognition pipelines for multi-spectral data streams

Carnegie Mellon University, Pittsburgh, PA, *Robotics Institute Research Intern* *Apr 2020 – Nov 2020*
- Leading research on open-world detection and tracking of 3D objects to improve safety in self-driving vehicle applications

University of Maryland, College Park, MD, *UMIACS Research Intern* *May 2018 – Jun 2020*
- Conducted research in traffic analytics for unsupervised anomaly detection and discriminative representation learning for vehicle re-identification
- Led research in defending against clean-label adversarial attacks

Bank of America, Charlotte, NC, *Conversational Commerce Technology Intern* *Jun 2019 – Aug 2019*
- Developed deep learning pipeline to validate quality of utterance-intent pairs in chatbot conversations using PyTorch, AllenNLP, and NLTK
- Delivered novel insights to improve customer satisfaction from production data and reduce call center call volume
- Deployed RESTful Active Learning API to introduce targeted learning feedback loop and improve intent classification model performance

Teaching Experience

University of Maryland, ECE Department, *Introduction to Digital Logic* *Jan 2019 – May 2019*
- Led recitation for a discussion section of 15 students
- Received highest marks on metrics of preparedness, respect for students, and overall teaching effectiveness from all students

Projects

Northrop Grumman Corporation, Elkton, MD, *Process Improvement Consultant* *Jan 2020 – May 2020*
- Worked with a team to identify bottlenecks in information flow through 23 stakeholder interviews
- Created wire-frames as proof-of-concept to model multi-media knowledge management system
- Projected savings of $615,000 over 5 years through improvements in productivity, proactivity, and root cause analysis

Cherehani Africa, College Park, MD, *Process Improvement Consultant* *Mar 2019 – May 2019*
- Worked with team to consult for micro-finance startup aimed at empowering female entrepreneurs in Kenya
- Built mathematical model to estimate the long-term relationship between loan default rate and projected revenue
- Outlined plan for mentorship program to increase customer financial literacy, retention and engagement

Programming Languages: Python, Ruby, Java, MATLAB, C/C++, C#, OCaml
Computer Hardware Tools: MultiSim, PSpice, Verilog, AutoCAD
Software Frameworks: PyTorch, OpenCV, AllenNLP, NLTK, Flask

Last Updated June 18, 2020