Aravind Cheruvu

aravindcheruvu1995@gmail.com
acheruvu Portfolio Google Scholar aravindcheruvu +1-540-824-8618

Summary

Graduate Student at Virginia Tech currently researching in the emerging space of machine learning and security and seasoned consultant with 4.5 years of prior experience in Oracle HCM Cloud Transformation.

Education

- **Virginia Polytechnic Institute and State University(Virginia Tech)** Blacksburg, Virginia
  M.S. in Computer Science; GPA: 3.50/4.00 *Aug. 2021 – May. 2022**

  Research Thesis: Design and Study of Proactive Defenses Against Deepfake Attacks.
  Graduate courses: Data Analytics, Deep Learning, Hot Topics in Security and AI, Theory of Algorithms, Defense Against ML Powered Adversary, Ethics and Professionalism in CS
- **Jawaharlal Nehru Technological University (VNR VJIET)** Hyderabad, India
  Bachelor of Technology in Information Technology; GPA: 8.51/10.0 *Aug. 2012 – May. 2016*

Technical Skills

- **Programming Languages:** Python, Java, C, C++, HTML/CSS
- **Machine Learning Libraries:** PyTorch, Numpy, Scikit-Learn, Pandas
- **Developer Tools:** SQL Developer, VS Code, Eclipse, Netbeans, Android Studio, Weka
- **Technologies/Frameworks:** MS-Office, Linux, GitHub, Java Swing, AWT
- **Oracle Tools/Software:** Oracle SQL, Oracle HCM Cloud HR and Payroll Module, Payroll Parallel/Reconciliation Tool(Data Analysis), HCM Extracts, Oracle BI Reports, Fast Formulas

Projects

- **Computer vision and Machine Learning:** "Design and Study of Proactive Defenses Against Deepfake Attacks" - Masters Research Thesis advised by Dr. Bimal Viswanath.
  - Designed and developed a novel algorithm using computer vision and Deep learning technologies to protect user images and videos from creating Deepfakes with Deepfake disruption and enabling easier Deepfake detection.
- **Computer vision and Machine Learning:** System and Method for Diagnosis of Diseases From Medical Images - Indian Patent No. 387074
  - Designed and Implemented a novel machine learning method to detect Covid-19 from Chest X-Ray Images with generalized applicability to other Medical Imaging systems.
- **Data Mining:** System and Method to Generate Time-Profiled Temporal Pattern Tree - Indian Patent No. 397728
  - Designed and Implemented a cost and compute efficient novel method to find interesting temporal association patterns from temporal transaction databases.
- **Machine Learning and Network Security:** Feature Clustering for Anomaly Detection Using Improved Fuzzy Membership Function.
  - Designed and developed a novel machine learning classification algorithm to perform a Network-based Intrusion Detection using dimensionality reduction and incremental clustering techniques.

Experience

- **Deloitte Consulting** Hyderabad, India

  - Certified Oracle HCM Cloud transformation consultant with 4.5 years of demonstrated techno-functional expertise specialized in capturing business use cases, understanding requirements, and perform fit-gap analysis to design scalable solutions.
  - Strategize and Execute Payroll Parallel/Reconciliation testing cycles to uncover system implementation defects, and to understand and recommend mitigation strategies for Financial and business process impacts of Go-Live and Post Production.

Senior Consultant *Dec. 2016 - Jul. 2021*

- Planned and executed Payroll compare and Provider Compensation compare cycles for Healthcare client with 120k+ workforce using a custom tool designed to compare compensation rules for providers pay between Legacy and test system.
- **Payroll Reconciliation:** Led planning and execution of Payroll Compare cycles to analyze $MM payroll data working closely with multiple stakeholders, identify system implementation defects, Go-Live and Post Production impacts mitigating risks of Production Go-Live.
- Developed and streamlined Payroll Compare Tool which uses payroll run data between Legacy and simulated Test systems to produce Payroll Compare reports and Executive Dashboards to extensively perform Payroll data analysis and understand system quality.
- **Payroll RICEF:** Supported payroll configuration, Coordinated and executed SIT and UAT testing cycles and proposed functional design solutions for nearly 30 RICEF objects.
- **Technical Developer:** Worked as a Technical team member implementing key out-of-box integrations using HCM Extracts, BI Publisher Reports and developed Payroll Fast Formulas.

- **Tata Consultancy Services** Hyderabad, India

Assistant System Engineer - Trainee *Jun. 2016 - Sep. 2016*

- Trained in E-Business Suite, Oracle Business Intelligence EE and Oracle Data Integrator tools.

Certifications:

- Certified Oracle Cloud Payroll implementation specialist 2019 from Oracle University.
- Certified in SQL Fundamentals from Oracle University.
- Certified in Introduction to Python Programming from Coursera.

Publications

- Aljawarneh, S.A., Radhakrishna, V., & Cheruvu, A. (2018). VRKSHA: a novel tree structure for time-profiled temporal association mining. Neural Computing and Applications, 1-29.
- Radhakrishna, Vangipuram, P. V. Kumar, Vinjamuri Janaki and Aravind Cheruvu. "A DISSIMILARITY MEASURE FOR MINING SIMILAR TEMPORAL ASSOCIATION PATTERNS." (2017).
- Shadi Aljawarneh, V. Radhakrishna, and Aravind Cheruvu. VRKSHA: A Novel Multi-Tree Based Sequential Approach for Seasonal Pattern Mining. In Proc. of ICEMIS, 2018
- Gunupudi Rajesh Kumar, Nimmala Mangathayaru, Gugulothu Narsimha, and Aravind Cheruvu. 2018. Feature Clustering for Anomaly Detection Using Improved Fuzzy Membership Function. In Proc. of ICEMIS, 2018
- S. A. Aljawarneh, V. Radhakrishna and A. Cheruvu, Extending the Gaussian membership function for finding similarity between temporal patterns. In Proc. of ICEMIS, 2017
- Shadi Aljawarneh, Vangipuram Radhakrishna, and Aravind Cheruvu. Nirnayam: fusion of iterative rule based decisions to build decision trees for efficient classification. In Proc. of ICEMIS, 2019