Ladislav Vrbský

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EXPERIENCE

Web Developer – Back-End / Full Stack Oct 2017 – Present
Vibe Desenvolvimento [C#, ASP.NET, Java, SQL, JavaScript, SVN]
Internet banking web apps and internal systems for a state bank Banpará
- Developed, improved new upcoming systems and legacy systems in production
- Performed under pressure on high-impact production bugs
- Analyzed system errors, both in code and in databases
- Used web services, REST, SOAP frequently
- Juggled multiple tasks at once
- Worked in small teams, new projects in close collaboration with technical requirements team

Applied Artificial Intelligence Researcher Jan 2016 – Apr 2018
Operational Research Lab [Matlab, LaTeX]
Smart power grid communication optimization research through cell positioning
- Developed a model that optimizes deployment of Access Points and network Gateways
- Open-sourced the model on GitHub - usable by utility companies
- Master's thesis: *Clustering-driven equipment deployment planner and analyzer for wireless non-mobile networks applied to Smart Grid scenarios*
- Used clustering techniques to research communication QoS in Smart Grids
- Compared clustering techniques for Base Stations deployment with respect to QoS in 1st publication

Junior Software Developer Apr 2013 – Aug 2014
AgentFly – Agent Technology Center [Java, CVS, XML]
Large-scale multi-agent project, that models and simulates air traffic control
- Implemented collision avoidance protocol for unmanned aerial vehicles (UAVs)
- Optimized generation of alternative airplane routes
- Developed communication skills by interacting and working closely with supervisor

PROJECTS

- **Fraud detection in energy distr. network**: Neural Networks, Decision Trees, Fuzzy Logic, Genetic Algorithm
- **Small AI projects**: MNIST digit classification (TensorFlow), color quantization (Matlab)
- **Memetic algorithm for Traveling Salesman Problem**: Genetic Algorithm with local search
- **JavaScript 2D web games**: Platform Adventure (in team), Helicopter Attack, Asteroid Crush

PROGRAMMING SKILLS

- **Languages**: Java 3yrs, C# 1yr, C/C++ 1yr, Matlab 3yrs, Python 1yr, JavaScript, SQL, HTML
- **Techniques**: Clustering, Neural Networks, Genetic Algorithms, Decision Trees, Graphs, Probability
- **Interests**: TensorFlow, PyTorch, SciKit-Learn, Reinforcement Learning, Computer Vision, Natural Language Processing, Problem Solving, Cyber Security

PUBLICATIONS

- **ICNSC 2017 (Intl. Conference)**: *Clustering techniques for data network planning in Smart Grids*
  Determines deployment positions of Base Stations in a network
  Compares performance of clustering algorithms in this application
- **To be published (Peer Reviewed Journal)**: [name not yet defined]
  Two-Level clustering - Optimal deployment study of network Access Points and Gateways
  Open-Sourced on GitHub

EDUCATION

Federal University of Pará (UFPA) Belém, PA, Brazil
Master of Science in Electrical Engineering – Applied Artificial Intelligence Aug 2015 – Mar 2018

Kansas State University (KSU) Manhattan, KS, USA
Computer Science (MS and PhD level) courses – International Exchange Aug 2014 – May 2015

Czech Technical University in Prague (CTU) Prague, Czech Republic
Bachelor of Computer and Information Science Aug 2011 – June 2014