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Mihai Avram

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Objective

Seeking an opportunity that partakes in the development of solutions to problems using technology: Web Development, Full-Stack Development, and/or Machine Learning.

Relevant Education

<u>University of Illinois</u> in Urbana-Champaign, IL   **Current (on one year break)**
Ph.D. in Information Sciences

<u>Indiana University</u> in Bloomington, IN   **May 2018**
Master of Science in Computer Science, GPA: 3.84/4.00

<u>Purdue University</u> in West Lafayette, IN   **May 2014**
Bachelor of Science in Mathematics, GPA: 3.20/4.00
Minors in Statistics, Sociology, and Management

Web/Full-Stack Development Experience

<u>Fakey</u>: A social media news literacy game   **Fall 2017 – Current**

- Lead developer and creator of Fakey (Web, Android, iOS)
- Created Fakey using Vue.js, Django, MySQL, and Apache Cordova
- Took part in the research and ideation process for Fakey using fake-news and social computing findings and scientific publications
- Iterated and improved Fakey features by surveying stakeholders and presenting the project at various meetings and conferences
- Currently still supporting Fakey by improving features from user feedback, and fixing bugs
- Took part in various interviews and speaking events including with Poynter and EU DisinfoLab

<u>Welsome</u>: A well-being and social impact platform   **Spring 2019 – Current**

- Taking part in full idea to product life-cycle such as – market research, ideation, prototyping, and creation of the product
- Created the back-end in Django/PostgreSQL and front-end in Vue.js and Apache Cordova
- Current progress entails a web/mobile app where users can sign up and and subscribe to actions to improve their lives and the world. All coupled with a goal/reward/gamification system for people to be engaged in such actions

<u>4Castersports</u>: Commission-free sports betting (website)   **Spring 2019 – Current**

- Dev lead and freelancer of a small team in a start-up environment using agile development and sprints
- Building Node.js/MongoDB/Vue.js micro-services to integrate decentralized betting using the block-chain
- Taking part in the DevOps life-cycle of the product using the Google Cloud Platform, Mongo Atlas, CI/CD through GitLab, organization via Trello, and documentation via Notion

<u>Code for America</u>: Young Government Leaders (YGL) Website Project   **Fall 2018 – Spring 2019**

- Created a LAMP website with Docker to support YGL which is a nonprofit providing a space for young government leaders in Chicago to make a difference

<u>Hoaxy</u>: Social media news/fake-news chatter analysis/visualization tool   **Spring 2017 – Spring 2018**

- Created Hoaxy news board and search functionality on the landing page using Python APIs and CRON jobs to automate recent news scraping to the site
- Took part in D3.js/Sigma.js optimizations in order to enable the visualization to render quicker
- Innovated new features and discussed bugs in weekly meetings to expedite the development process
- Created various features such as tooltips, animation timelines, and bot cache system using Bootstrap, JavaScript, HTML5, CSS3, and Sigma.js, and D3.js

<u>ECHO Global Logistics</u>: Job board creation   **Spring 2016**

- Created a job board for ECHO Global Logistics using JavaScript and REST APIs

<u>FHLBC Website</u>: Proprietary banking application   **Summer 2014 – Fall 2015**

- Created and maintained the FHLBC website and its processes using C#, SQL Server, and Octopus Deploy
- Took part in fixing loan processing bugs, UI bugs, and creating triggers/stored procedures to extend bank processing functionality

Industry Experience

<u>Avanade Consulting:</u> Chicago, IL   **2014 – 2016**

- Took part in full application life-cycle (Requirements gathering, Application Development, Test Development Change, Deployment of Change, Support previous Deployments) as part of the Production Support team
- Learned an array of Microsoft technologies applicable to back-end data storage and data manipulation (SQL Server), middleware logic for large-scale Mortgage Banking applications (C#, PowerShell, Automation), front-end UI experience (HTML, JavaScript, CSS), as well as version control using Visual Studio Team Foundation Server
- Presented various technologies and projects to business users, communicated closely with clients, and assisted in "Live" Production critical failures bi-monthly
- Acquired a general idea of the full-stack development toolkit: Web Design, Application Design, UI/UX, Testing, Version Control, Analytics, Big Data, Reporting, Machine Learning, Data Mining, and Cloud

Leadership Experience

<u>Dev lead at 4castersports:</u> A commission-free sports betting startup   **Spring 2019 - Current**

<u>Project Lead for Welsome:</u> A well being and social impact scheduling system   **Spring 2019 - Current**

<u>Indiana University:</u> As a student/researcher in Bloomington, IN   **Fall 2016 – Spring 2018**

- Assisted undergraduates and fellow researchers with various problems regarding system/software configurations, problem formulations, research methods, and programming tips
- Coordinated and led/co-led meetings with regards to research projects or class projects

<u>Avande Consulting:</u> As a senior solutions developer in Chicago, IL   **2014 - 2016**

- Led and co-led meetings regarding production support tasks essentially co-ordinating and assigning tasks to offshore team members
- Briefly mentored incoming analysts with system/software configurations and programming tips

<u>EPICS:</u> (Engineering Projects in Community Service) at Purdue University, West Lafayette, IN   **2010 - 2013**

- Presented product prototype to stakeholders and collaborators, taking part in the decision-making process
- Coordinated meetings to discuss progress, issues, and goals. Constructed decision matrices, tested prototypes, and delivered the final project to the client

Research Experience

<u>University of Illinois</u>: Urbana-Champaign, IL   **Summer 2018 – Summer 2019**

- Published ["Adversarial perturbations to manipulate the perception of power and influence in networks"](link) in (ASONAM 2019)
- Developed methodology and applied experimentation with Adversarial Learning on Social Networks
- Created a Python framework to enable simulations on any networks using any desired graphs, node positions, budgets, functions, and evaluation metrics/goals
- Mining for patterns in how people interact with misinformation on social media feeds using **Fakey**
- Assisted with writing grants and submitting preliminary work to conferences
- Crafted a rough draft of a publication for our work on patterns in how people interact with misinformation on social media feeds using Fakey
- Crafted a rough draft of a publication for our work on Adversarial Learning in Graphs

- Presented poster titled "Towards an open-source framework to assess the robustness of network structures and metrics to adversarial attacks and ascertain adversarial attack patterns" at the iSchool Corporate Showcase 2019 in Champaign, IL
- Presented poster titled "Adversarial perturbations for identifying strategies toward biasing the perceptions of power and influence in social networks" at the iSchool Research Showcase 2018 in Champaign, IL

<u>Indiana University</u>: Bloomington, IN   **Fall 2016 – Summer 2018**

- Completed my Master's Thesis funded by the [Democracy Fund](#) which involves the study and prevention of misinformation in social media by creating, using, and improving tools such as <u>Hoaxy</u>, <u>OSoMe</u>, <u>Botometer</u>, and a media literacy game called <u>Fakey.</u>
- Published ["HarpLDA+: Optimizing Latent Dirichlet Allocation for Parallel Efficiency"](#) (IEEE Big Data 2017) and **["Finding and counting tree-like subgraphs using MapReduce"](#)** (IEEE TMSCS 2017) under professor Judy Qiu in the summer of 2017
- Created a Machine Learning MOOC under Professor Ying Ding for the IU [Data Science On-Ramp Program](#) in the summer of 2017
- Fact Checking: Awarded 5th place in the 2017 WSDM Cup and published the paper ["RelSifter: Scoring Triples from Type-like Relations"](#)
- Assisted in research discussions, manual data annotation, and building algorithm comparison as well as feature extraction tools using Python
- Presented relevant research to peers and collaborators
- Served as a Web Administrator for the IU Complex Networks and Systems WordPress [website](#)

<u>University of Michigan:</u> Ann Arbor, Michigan   **Summer 2013**

- Learned and implemented the Radiative Transport Equation (RTE) in three dimensions
- Created a Java <u>applet</u> to extrapolate the intensity of light in random media using the RTE
- Wrote a report in LaTeX explaining the RTE theory and how to use the Java applet

<u>Discovery Park Undergraduate Research Internship Program:</u>
Purdue University, West Lafayette, IN   **Spring 2013**

- Analyzed journal articles, cleaned and mined data using Python, and ran analysis in R to discern our research results – i.e. Civilians killed due to IDEs
- Published a Journal Article: ["Civilian Deaths and the Iraq War: Who is Responsible?"](#) in the Journal of Purdue Undergraduate Research

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Teaching Experience

<u>University of Illinois:</u> As a Ph.D. student in Champaign, IL   **Summer 2018**

- Served as a TA for a Network Analysis class for the 2018 Global Institute teaching program

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Volunteer Experience

Code for America, Pro-Truth Pledge and Movement, Zooniverse, Outreach for NetSci 2017 conference, Aspire Foundation, Misericordia Heart of Mercy, Greater Chicago Food Repository, Habitat for Humanity, Run For Cause

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Relevant Skills

JavaScript:	★★★★☆	Git:	★★★★☆
HTML5:	★★★★☆	Python:	★★★★☆
CSS3:	★★★★☆	SQL:	★★★★☆
WordPress:	★★★☆☆	MongoDB:	★★★★☆
Bootstrap:	★★★★☆	Linux OS/Linux Bash:	★★★★☆
React:	★★★☆☆	PHP:	★★★☆☆
Vue.js:	★★★★☆	Django:	★★★☆☆
Apache Cordova:	★★★☆☆	Node.js:	★★★★☆

Docker:	★★★☆☆	AWS:	★★★☆☆
D3.js:	★★★☆☆	npm:	★★★☆☆
Machine Learning:	★★★★☆	Data Mining:	★★★★☆
Network Science:	★★★★☆	LaTeX:	★★★★☆
NLP:	★★★☆☆	Deep Learning:	★★★☆☆
Hadoop:	★★★☆☆	Cloud/Distributed Computing:	★★★☆☆
Algorithms:	★★★☆☆	C/C++:	★★★☆☆
R:	★★★☆☆	Java:	★★★☆☆
Microsoft Office:	★★★★☆	Google Cloud Platform:	★★★★☆
ES6:	★★★★☆		