NUR ADILA FARUK SENAN

DATA SCIENTIST AND VISUALIZATION ENGINEER, APPLE INC.

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Data scientist passionate about producing insightful data analysis and innovative data visualizations, enthusiastic about making friction-free user interfaces, and consistently seeking to improve the efficiency of the teams I work with.

Experience

Apple Product Design

Data Scientist and Visualization Engineer — **February 2012 - Current**

- Created simulations and visualizations that enabled rapid understanding of difficult concepts and instant identification of core issues. This involved writing various scripts and/or building reusable tools that continue to be used both within the team and by external groups. Wrote accompanying in-depth documentation and created various examples to help make these tools easy to understand and use.
- Architected and developed front end visualizations for viewing and monitoring manufacturing data in real-time.
- Optimized existing algorithms (both vendor-created and in-house) for speed.
- Performed validation of vendor algorithms to ensure correctness and validate performance claims.
- Wrote algorithms simulating various different design decisions to ensure the optimum design was chosen.
- Revamped an exiting product quality monitoring tool to improve usability and speed, as well as to permit more in-depth analysis of issues.
- Led hour long 'introductory' classes in `JMP` and `Excel` to other employees in the department. This involved introducing the attendees to the basics of data analysis in `JMP`, as well as training them on some of the lesser known 'tips and tricks' available for speeding up data processing.

Open Source Statistics Library

Papaya — **January 2012**

- Created and maintained the open-source papaya library — a collection of statistics, mathematics, and matrix manipulation related utilities — for the Processing programming environment.

Apple Industrial Design

Data Analyst Intern — **May - Aug 2011**

- Analyzed and visualized data specific to an at-the-time unreleased project with the help of various software platforms (primarily Matlab, Processing, Adobe Illustrator).

University of California at Berkeley

Research Assistant — **2007-2011**

- Helped develop and improve upon a model of the lumbar spine (models viewable at simtk.org/home/lumbarspine and simtk.org/home/spinebushing).
- Wrote algorithms to aid with data acquisition and interpretation of experimental data sets obtained from in-vitro testing of lumbar specimens. Ran extensive error analysis on the resulting data.
- Published articles in peer-reviewed journals on a musculoskeletal model of the lumbar spine, the dynamics of the intervertebral disc, Cartesian stiffness matrices, error analysis of experimentally obtained data sets, quantification of rigid body motion using quaternions, and plant growth dynamics.

University of California at Berkeley

Graduate Student Instructor — **Fall 2007 & 2008, Spring 2009**

- Led discussion lectures and help sessions for Intermediate Dynamics (2 semesters) and Introductory Dynamics (1 semester).
- Awarded the "Outstanding Graduate Student Instructor Award", 2008-2009 school year.

Technical

- Data Processing & Analysis: `R`, `Python`, `Javascript`, `Processing`, `Java`, `Matlab`, `JMP`.
- Data Visualization: `Javascript`, `R`, `JMP`, `Processing`, `Matlab`.
- Web Development: `Javascript` (`d3`, `React`), `CSS` / `Sass`, `Shiny-Server`, `node.js`, `postgres`.
- Other Misc: Unix shell scripting, `Git`, `Velocity`, Full MS Office and iWork suites.

Education

PhD in Mechanical Engineering, University of California at Berkeley, CA, 2008-2011.

Masters in Mechanical Engineering, University of California at Berkeley, CA, 2006-2008.

Bachelor of Engineering in Mechanical Engineering, Vanderbilt University, Nashville, TN, 2002-2006.

Bachelor of Arts in Mathematics, Vanderbilt University, Nashville, TN, 2002-2006.

Bachelor of Arts in Physics, Vanderbilt University, Nashville, TN, 2002-2006.

Awards

Departmental Block Grant Fellowship, Fall 2006, Summer 2009, Spring 2010, Spring 2011.

Panel Speaker, Teaching Conference for New International Graduate Student Instructors , Fall 2010 & 2011.

National Science Foundation Research Grant, Spring & Summer 2007, Spring & Summer 2008, Fall 2009, Summer & Fall 2010.

Outstanding Graduate Student Instructor Award, 2008-2009 Recipient.

Penang International Biathlon 2006, Women's runner-up.

Youth Speaks for the Nation Elocution Contest , First Place Winner, 2001.

Interests

Technical: Algorithm speed, Better ways of visualizing data, User-friendly documentation, User interfaces.

Sports: Running, Strength training, Squash, Standing Desk-ing.

Other: Human-Device interaction, Psychology, Perception, Design interfaces, Consumer behavior, Grocery shopping, Boiling water, Making ice, Trying to be funny.

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