Damon George

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Education

Oregon State University
MS Computer Science in Machine Learning

Corvallis, OR
Sept 2019 - Sept 2021

- GPA 3.96
- **NSF Graduate Research Fellow** (2020 Award Winner, read more)
- Research Assistant in the Information Processing Group under Dr. V John Mathews.
- Full Tuition Waiver

Coursework

Machine Learning, Deep Learning, Intelligent Agents & Decision Making, Adaptive Signal Processing, Advanced Signal Processing Methods, Computer Vision, Estimation & Filtering

Thesis Research

"Adaptive Movement Intent Decoding for Intuitive Control of Neuroprostheses":
Creating neural network-based decoders that convert human biological signals into movement intent for the control of prosthetic limbs.
- Developed neural network and online learning methods using PyTorch, plus an asynchronous multi-processing Python framework, that enable decoders to adapt in real-time to the user during normal operation of the prosthetic limb.
- Implemented real-time signal processing algorithms using NumPy & SciPy, and derived a novel variation of Dynamic Time Warping for use in pattern detection.
- Evaluated system in online experiments with 10 human subjects, resulting in up to 50% reduction in the rate of performance decay of virtual prosthetic hands.

Gonzaga University
B.S. Computer Engineering

Spokane, WA
Sept 2015 - May 2019

- GPA 3.99
- **Garrigan Award Winner** (Highest 4-Year Cumulative GPA in Graduating Class, read more)
- Merit & Music Scholarship Recipient

Coursework

Algorithms & Data Structures, Database Management, MicroControllers, Electronics Design, Computer Security, Operating Systems, Computer Architecture, Network Theory, Natural Language Processing, Artificial Intelligence

Senior Design Project

Smart Helmet: A cyclist helmet that uses Vehicle-to-Everything wireless communication to share location data with nearby vehicles. The helmet uses data received from nearby vehicles to warn the cyclist of potential collisions via haptic and audio warnings.
- Programmed an Apollo 2 Blue ultra low power microcontroller in C using FreeRTOS.
- Derived & implemented efficient yet precise collision calculations given the hardware limitations, allowing the system to look ahead 10 seconds for collisions.
- Created detailed unit tests for ensuring the accuracy of collision calculations.
- Collaborated on a Java Traffic Simulator built upon OpenGL graphics for use in integration and performance testing.

Experience

Open Sky Software, Inc.   Bend, OR
Software Development Intern   Summers '17, '18, '19

Skyware Inventory 2   (2019)
Collaborated to develop the next generation version of the firm's flagship inventory tracking
product (www.skywareinventory.com) using the Template designed in the previous summer.
- Coded an advanced Java and MySql transaction manager to track inventory transactions
  through time across multiple items, locations, and users with reporting that supports
  inventory industry standards such as Average, FIFO, and LIFO costing.
- Developed complex Javascript to handle editable tables with custom fields, Ajax
  autocomplete, and flexible form validation.
- Learned the agile development process Kanban.

Template Web App   (2018)
Prepared a 'Template' Web Application to serve as the scaffolding for the firm's future web
applications, featuring Java for server side business logic, a MySQL database, and a HTML5, CSS
Flex, and Javascript front end.
- Implemented the Model-View-Controller architecture in Java using the Spring Framework,
  with Hibernate to interface between Java entities and the MySQL database.
- Incorporated the Thymeleaf HTML5 templating framework to create and serve views.
- Learned best practices in HTML5/CSS leveraging the LESS pre-processor.
- Created and tested the application for all interface modes (desktop, tablet, and mobile).
- Developed custom error handling and detailed audit logging.

Simple Password Manager   (2017)
Designed and programmed a Java command line secure password manager using the Spring
Shell Framework to store and share encrypted company passwords among employees.
- Reinforced proper coding practices by shadowing veteran employees, such as using
  Subversion and Git software version control.
- Learned cryptographic libraries and best practices for data encryption, including encrypting
  data at rest and in transit.

Technical Skills

Machine Learning Techniques
- Skilled: Deep & Convolutional Neural Networks, Online Learning, Ensemble Networks
- Familiar: Reinforcement Learning, Computer Vision, Recurrent Networks

Programming Languages
- Skilled: Java, Python, C, MySQL, HTML, CSS/LESS
- Familiar: Javascript, C++, MATLAB, x86-64 Assembly, Haskell, VHDL

Software Frameworks
- Java: Spring Framework, Thymeleaf, Hibernate ORM, LWJGL, Hadoop
- C/C++:   Free RTOS, Arduino
- Python: PyTorch, Tensorflow, Tkinter, OpenCV, Num
- Javascript: Node.js, React

Tools and Containers
Bash, Git, VS Code, Eclipse, MATLAB, MySQL, Docker, AWS, Apache Tomcat & Web Server

Systems
Ubuntu & CentOS Linux, Mac OSX, Windows 10