Dylan Balata, Software Engineer

dbalata95@gmail.com | Albuquerque, New Mexico, US

SUMMARY

Graduated magna cum laude with a Bachelor's in Computer Science from the University of New Mexico with a GPA of 3.8. Interned for 2 years at Tau Technologies while in school. While there worked on a variety of applications including: hardware acceleration, orbital modelling, and cross compilation. Since graduating in 2018 has been working at Indica Labs in a variety of areas including: full stack development, computer vision, convolutional neural networks, graphics rendering, and .NET. Has been the lead or sole engineer on successfully delivered features in all of these areas. Has also brought cutting edge information to the company through finding, evaluating, and presenting relevant white papers.

EXPERIENCE

, Software Engineer 2018-08-01 — Present

- Provided complete software solutions in a variety of domains, working with product and QA professionals to deliver high quality results in periodic release time frames.
- Developed a fullstack solution to allow management of GPU resources across multiple networked machines by multiple users. Utilized WinForms for a responsive desktop front end, a combination of GraphQL and SignalR web-sockets for network communications, and MySql through EntityFramework for persistence.
- Integrated new neural network based image analysis methods into existing traditional image analysis dataflows, allowing seamless combination of machine learning and traditional methods for complex image quantification tasks.
- Researched and developed a cutting edge convolutional neural network based approach to mitotic figure segmentation in whole slide images. Utilized mxmnet for training and inference on a custom RetinaNet based architecture.
- Developed a custom object oriented wrapper for the Python C API, effectively a drop in replacement for boost-python but conforming to the stable ABI, allowing for python embedding to essentially be agnostic to python version, resulting in a greatly increased ease of use for third party and internal python plugin developers.
- Converted graphical portions of the AI product to use OpenGL instead of System.Drawing, resulting in greatly increased rendering efficiency through use of GPU resources.
- Increased team knowledge by presenting multiple white papers and giving well attended tech-talks on various topics such as those previously mentioned.

, Software Engineering Intern 2016-08-01 — 2018-08-01

- Provide general software solutions under the direction of a senior engineer.
- Developed a working prototype and grant proposal for a Haskell program that would take as input programs written in a legacy language specific to naval operations and output equivalent programs written in c++ for verification purposes.
- Integrated a 3rd party library into an orbital modelling Java application to allow computing n-body gravitational dynamics in place of the existing 2-body implementation.
- Developed a reflection based refactoring tool that was used to automate a large part of an ongoing refactor, saving developer time.

AWARDS

UNM Presidential Scholarship, University of New Mexico 2014-08-15

- Academic scholarship covering tuition costs.

VanDyke Scholarship, VanDyke Software Inc. 2015-03-01

- Awarded to computer science students who excel in lower-level computer science courses.

EDUCATION**University of New Mexico** 2014-08-15 — 2018-12-18

Bachelor - Computer Science (Philosophy minor)

SKILLS**.NET** ***(Experienced)*****:** LINQ, Object Oriented Programming, C#, Unit Testing

Computer Vision ***(Proficient)*****:** Traditional, OpenCV, Neural Networks, PyTorch

Full Stack ***(Proficient)*****:** WinForms, GraphQL, Web Sockets, ORM, EntityFramework, SQL, MySql

Embedding ***(Proficient)*****:** Interop, Python, Native Code, High Performance

Graphics ***(Competent)*****:** OpenGL, Rendering, Hardware Acceleration

LANGUAGESEnglish *(Native speaker)*

INTERESTSFitness *[Weightlifting, Bodybuilding]*, Philosophy *[Social philosophy, Ethics]*