Joeny Bui

Senior Associate Engineer/Programmer at Protection Engineering Consultants

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Summary

Scientific software developer with a background in structural engineering. Current interest includes numerical algorithms, 3D graphics, UI design, data mining, and web development.

Experience

Senior Associate Engineer/Programmer at Protection Engineering Consultants
June 2014 - August 2017 (3 years 3 months)

Developed an OOP finite element fragment tracking algorithm that implements graph theory, minimum bounding volume, large memory management using hdf5, etc.

Automated a meshing algorithm that can generate an arbitrary curtain-wall GFPM LSDYNA model.

Designed a RESTful API for the web application using Django and Django Rest Framework to create, run, and store the WhAM models.

Deployed the full-stack (Nginx, Gunicorn, Postgres, Django, Supervisored, RabbitMQ, and Celery) using Ansible on our physical server.

Build a beautiful UI/UX front-end using AngularJS framework and Angular Material.

Software Developer at RISA Technologies
January 2013 - May 2014 (1 year 5 months)

• Core member of the software developing team that enhances RISA software annual upgrade.

• Designed and implemented individual projects to enhance RISA software such as the geodesic dome generator and the shape database convertor.

• Implemented 3d rendering GDI+ upgrade for RISA Elevated Slab.

Graduate Research Assistant at University of Texas at Austin
September 2010 - December 2012 (2 years 4 months)

• Conducted an independent investigation on the behavior of prestressed concrete girder subjected to blast loads.

• Programmed a dynamic prestressed concrete girder model using C++ that calculates fiber moment-curvature, non-linear static analysis, and advanced single-degree-of-freedom (SDOF).

• Validated the SDOF prestressed girder model with a high-fidelity, LS-DYNA finite element model.

• Collaborated with client and project team to shape the goals and scope of the project.

• Designed the framework, data structure, and graphical user interface in Visual Basic .NET for multiple bridge component software, applying object-oriented programming principles.

• Created GDI+ 2D and DirectX 3D interactive rendering engine that provides instantaneous visualization environments.

Stress Engineer at L-3 Communications
January 2009 - August 2010 (1 year 8 months)
• Analyzed federal and military aircraft structural integrity using a combination of finite element models (NASTRAN) and the classical structural analysis method.

• Supported and coordinated with designers by providing technical expertise to improve the efficiency of the design.

• Incorporated analysis methods and calculations into stress report for the Federal Aviation Authority for approval.

Researcher
May 2008 - December 2009 (1 year 8 months)
• Conducted experimental natural ventilation research on full-scale test model under Dr. Atila Novoselac.

• Assembled and tested various measurement equipment that tracks and records real-time data.

• Programmed spreadsheet in Visual Basic that post-processes experimental data into tables and diagrams.

Engineering Intern at Aguirre & Fields, LP
January 2007 - August 2008 (1 year 8 months)
• Designed, modeled, and CAD various TX DOT bridges in Microstation.

• Programmed beam-table matrix program that was utilized throughout the company to improve the efficiency of the design process (Visual Basic).

• Created new tools for various projects in Mathcad utilizing the latest AASHTO specification.

Education

The University of Texas at Austin
Master of Science, Civil Engineering, 2010 - 2012
The University of Texas at Austin
Bachelor of Science, Architectural Engineer, 2004 - 2008
Activities and Societies: American Society of Engineer, Architectural Engineering Institue, McNair Scholors

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Linked in®

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