DEBLINA BHATTACHARJEE

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ARTIFICIAL INTELLIGENCE RESEARCH ENGINEER/ DATA SCIENTIST

Highly dependable Computer Science professional with experience and education in Technology, proficient in programming, presentations, supporting software, and identifying, modelling, prototyping and solving complex problems. Excels as an individual contributor and in collaborative team settings, delivering tasks on time and to specifications with a proven track record of happy management and grateful clients.

Summary Skills:

Optimization-2 yrs	**MATLAB -2 yrs**	**Microsoft Office Suite-13 yrs**
Designing Data Models-2 yrs	**Clustering, Regression, Classification-4 yrs**	**Windows, Linux-13/6 yrs**
Object Recognition-2 yrs	**TensorFlow, Keras- 4 yrs**	**Hadoop, Map Reduce-1 yr**
Deep Learning -4 yrs	**R, Python- 4 yrs**	**Team Management-3 yrs**
C, C++, Java-6 yrs	**PostgreSQL RDBMS- 1 yr**	**Goal Orientated and Hard Working**
Computer Vision-1 yr	**Statistical/ Predictive Analytics-2 yrs**	**Service Reliability**

EDUCATION

Master of Science in **Computer Science and Engineering,** Kyungpook National University, Daegu, South Korea;
Secured a C**GPA: 4.25/4.30** September 2015- August 2017

Thesis Title: An Evolutionary Learning Algorithm based on Plant Intelligence to solve Optimization Problems
Designed an algorithm based on intelligence of biological plants in non-stationary environments that follows the universal Fibonacci series and Golden Ratio. Applied to medical imaging and terrestrial image processing problems.

Bachelor of Technology in **Computer Science and Engineering**, Christ University Faculty of Engineering, Christ University, Bangalore, Karnataka, India; secured a **CGPA of 3.86/4.0**, **Major GPA: 3.94/4.0** August,2011-May,2015

WORK EXPERIENCE

Deep Learning Research Engineer **(August 2017–Present)**
Samsung Postech Intelligent Media Research Centre– Pohang, South Korea

- Writing production level code for 2 large scale computer vision projects using Keras with TensorFlow backend.
- Optimizing the Convolution Neural Network Architecture. Combining it with RNNs to achieve word streams from the video
- Implementing state of the arts in video summarization and visual microphone technology using Python.

Machine Learning Researcher **(August 2016– July 2017)**
Connected Computing and Media Processing Lab – Daegu, South Korea

*Hand-picked out of 250 candidates for the **R & D project (BK 21+) by the Government of South Korea, Ministry of Education**.*

- Identified the medical imaging problem of automatically detecting leukocytes in a blood smear image before the team.
- Modelled the problem mathematically as an optimization problem. Developed and presented an algorithm for solving the object recognition problem using Matlab and Python.
- Verified test results of the designed solution by comparing with existing medically graded standards showing 98.99% precision as compared to 81% precision in manual tests and maximum of 93% precision from other existing automated solutions.
- Collaborated with all team members while organizing research tasks to members under pressing deadlines.
- Published the results in the AAAI Conference on Artificial Intelligence 2017, USA and registered the software with Korean Copyright Commission.

Project Lead **(August 2015- August 2016)**
The IT R&D Program for Self-Organized Software platform (SoSp) for Welfare Devices– Daegu, South Korea

- Managed the implementation of the deep learning CNN algorithm for identifying nodules in CT scan images.
- Optimized the algorithm design using my own developed algorithm based on plant intelligence.
- Scanned and prepared weekly reports of the team and distributed them to the necessary mentors for accountability.

- Supervised the weekly check run of infrastructures, servers and lab materials after lab hours.
- Decided the weekly objectives and requirements of the team.
- Communicated the progress to higher officials. Achieved 6-month objective within 4.5 months.

PUBLICATIONS

- **"Image Analysis using a novel learning algorithm based on Plant Intelligence"; NIPS / WiML 2017 workshop**, Long Beach, California, USA. Tools: MATLAB
- **"A Personalized and Immersive Educational Model using Evolutionary Learning in Virtual Environments"; Elsevier Computers & Electrical Engineering (CAEE)** Journal (2017)- accepted. To be published. Tool: OpenCV, Google Cardboard
- **"A Leukocyte Detection technique in blood smear images using Plant Growth Simulation Algorithm"**; **AAAI 2017**: Proceedings of the 31st Association for the Advancement of Artificial Intelligence, San Francisco,USA, February 03~09 2017. Tool: MATLAB
- "**An object localization optimization technique in medical images using plant growth simulation algorithm**"; **Springer Plus** Journal (2016) Volume 5, Number 1784, pages: 1-20 Tool: MATLAB
- "**A Hybrid Search Optimization Technique Based on Evolutionary Learning in Plants**"; **Springer LNCS** and Proceedings of the Seventh International Conference on Swarm Intelligence, Bali, Indonesia, June 24~30 2016. Tool: CPython
- "**Evolutionary Reinforcement Learning based Search Optimization**"; **SAC 2016**: Proceedings of the 31st Annual ACM Symposium on Applied Computing, Pisa, Italy, April 4~8 2016. Publisher: ACM. Tool:Python
- "**Adaptive Transcursive Algorithm for Depth Estimation in Deep Learning Networks**"; Proceedings of International Conference on Platform Technology and Service (**PlatCon**), Jeju, South Korea, February 2016. IEEE Conference Publications pages: 1-3. Tool: Python, Hadoop, Keras with Tensorflow backend

CERTIFICATIONS

- **Deep Learning A-Z**: superdatascience.com, March 2017 (Online)
- **Machine Learning A-Z**: superdatascience.com, November 2016 (Online)
- **Microsoft Student Program**: Hackathon via Microsoft, February 2015 (Christ University Campus)
- **R Programming and Data Analysis**, Johns Hopkins University, USA via coursera.org, August 2014 (Online)
- **SAP HANA Cloud Platform** (Advanced) via openSAP, July 2014 (Online)
- **MAS.S69x: Big Data and Social Physics**, Massachusetts Institute of Technology, USA via edX.org, May 2014 (Online)
- **CS 6.001: Introduction to computer Science & Programming using Python**, MIT, USA via edX.org, January 2014 (Online)
- **SAP 1.0 Certification**, from Christ University and Waldorf, Germany, September 2013. (Christ University Campus)
- **Stat 2.3X: Introduction to Statistics: Inference**. University of California, Berkeley via edX.org, September 2013(Online)
- **CS169: Software as a Service**. University of California, Berkeley, USA via edX.org, August 2013 (Online)
- **Stat 2.2 X: Introduction to Statistics: Probability**. University of California, Berkeley via edX.org, May 2013 (Online)

AWARDS

- Awarded nomination for best student paper at ACM SAC SRC, Italy, April 2016.
- Awarded full merit scholarship by Kyungpook National University 2015-2017 (4 Semesters)
- Awarded merit scholarship awarded by Christ University, 2011 - 2014. Dean's List- Gold Medal
- Won Gold medal and ranked 1st in National Cyber Olympiad in India, 2005
- Awarded Distinction in Macmillan International Assessment, University of New South Wales, Australia, 2004-2006
- Runner-up International Science Debate Competition by Quanta, November 2009

PROFESSIONAL AFFILIATIONS

- Podcast appearance on Super Data Science (Australia), 2017 (6K+ audience) http://www.superdatascience.com/43
- Member of AAAI (Association for the Advancement of Artificial Intelligence), USA
- Member of International Machine Learning Society, USA
- KNU International Student Ambassador August 2016- present
- Volunteered for Teach For India, 2015
- Volunteered for "Save the Girl Child Campaign" at the Centre for Social Action, CSA India- 2012- 2014
- Event head and committee member, Christ University Annual Fest –Magnovite,2012,2013 and 2014
- President of University Computer Science Club, Christ University, India 2013-2014.

LANGUAGES AND TEST SCORES

- TOEFL (iBT) - 114/120 (English). GRE- 316/340
- Languages known- English (Native), Bengali (Native), Hindi (Native), Spanish (Elementary), Korean (Elementary)